

**1972  
CENSUS OF MINERAL INDUSTRIES**

**PRELIMINARY REPORTS**

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# 1972 CENSUS OF MINERAL INDUSTRIES

INDUSTRY SERIES

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IC72(A)-1  
November 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

## Total Employment, Payroll, and Value Added in Mining

This report presents total employment, payroll, and value added, by industry group and industry. It is the first report presenting results of the 1972 Census of Mineral Industries. This advance report will be followed by a series of preliminary industry reports which will present measures of the economic activities of the mineral industries during 1972. Since the figures shown in this report have been subjected to a limited review only, they must be regarded as approximations of figures which will be published on an industry basis during the next 5 months.

In 1972, value added for establishments classified in the mineral industries amounted to \$26.7 billion (unadjusted for price change), an increase of 38 percent from 1967. Average employment in mining showed an increase of 4 percent from 1967 to a total of 589 thousand. Payroll in mining amounted to \$6.1 billion, an increase of 47 percent from 1967.

The 1972 Census of Mineral Industries is the 17th such census for the United States. The first census was conducted in 1840, and since World War II it has been scheduled as a 5-year program. However, for a variety of reasons, the actual censuses were conducted for 1954, 1958, 1963, and 1967. In recent years, the census of mineral industries has been conducted as part of the economic census program which also includes censuses of manufactures, wholesale and retail trade, service industries, transportation, and construction.

Establishments are classified in mineral industries in accordance with industry definitions described in the 1972 edition of the Standard Industrial Classification (SIC) Manual. Data are in-

cluded for most industries and industry groups with comparative data from the 1967 Census of Mineral Industries. Where appropriate, 1967 data have been restated to conform to the 1972 SIC Manual.

In the 1972 Census, approximately 8,000 single-unit establishments with a payroll indicating one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1972 censuses of wholesale and retail trade, service industries, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added.

In the 1972 Census of Mineral Industries, as in the 1967 Census, data for all single-unit establishments without payroll were excluded because of the difficulty in developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) Value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establish-

ments without paid employees for mining as a whole accounted for approximately 3 percent of value added.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics. As indicated above, report forms were not mailed to very small establishments (less than five employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine

lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information.

Respondents were asked to file separate reports for any central administrative offices or auxiliary units. Classification of employment and payroll data at such offices and auxiliary units was based on the mining establishments served. Such data are included in the data for the individual industries and groups shown in this report.

#### EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in

kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Value Added in Mining--This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Total Employment, Payroll, and Value Added in Mining, by Industry Groups and Industries:**  
**1972 and 1967**

(See text, Explanation of Terms)

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Industry code	Industry group and industry	1972			1967		
		Total employment (1,000)	Payroll (million dollars)	Value added in mining (million dollars)	Total employment (1,000)	Payroll (million dollars)	Value added in mining (million dollars)
	All mineral establishments, including administrative and auxiliary units, total.....	589.0	6,135.4	26,670.1	567.3	4,186.8	19,330.2
10	Metal mining.....	79.9	843.3	2,331.3	70.9	552.4	1,556.6
1011	Iron ores.....	19.8	220.1	695.7	22.6	185.9	661.9
1021	Copper ores.....	36.4	388.2	989.4	20.9	170.9	436.5
1031	Lead and zinc ores.....	7.7	71.4	202.9	9.1	60.9	102.6
104	Gold and silver ores.....	2.8	29.9	60.7	3.7	25.5	51.3
1041	Gold ores.....	1.8	19.5	46.6	2.6	17.3	35.4
1044	Silver ores.....	1.0	10.4	14.1	1.2	8.2	16.0
1051	Bauxite and other aluminum ores.....	.5	4.5	24.0	.6	4.1	22.5
1061	Ferroalloy ores, except vanadium.....	3.8	40.6	135.5	4.0	31.9	73.4
1081	Metal mining services.....	1.9	19.3	38.6	2.6	19.1	33.6
109	Miscellaneous metal ores.....	7.0	69.3	184.5	7.4	54.1	174.8
1094	Uranium-radium-vanadium ores.....	5.9	58.2	154.7	5.4	40.5	142.1
1092	Mercury ores.....	1.1	11.1	29.8	1.2	8.8	24.4
1099	Metal ores, n.e.c.....						
11	Anthracite mining.....	4.4	35.9	83.3	7.2	41.1	82.1
1111	Anthracite.....	3.9	32.2	78.5	6.4	36.6	74.7
1112	Anthracite mining services.....	.5	3.7	4.8	.8	4.5	7.4
12	Situminous coal and lignite mining.....	154.1	1,728.0	3,712.8	124.4	926.2	2,009.2
1211	Situminous coal and lignite.....	151.2	1,699.1	3,651.7	123.0	915.8	1,987.5
1213	Situminous and lignite mining services.....	2.9	28.9	61.1	1.4	10.4	21.7
13	Oil and gas extraction.....	237.6	2,467.0	17,843.3	244.9	1,855.1	13,394.3
1311	Crude petroleum and natural gas.....	113.2	1,310.4	14,678.4	126.4	1,049.1	10,965.0
1321	Natural gas liquids.....	10.5	114.6	1,023.4	12.4	99.5	905.0
138	Oil and gas field services.....	113.9	1,042.0	2,141.5	106.1	706.6	1,524.1
1381	Drilling oil and gas wells.....	47.3	444.9	915.0	42.9	294.7	627.4
1382	Oil and gas exploration services.....	9.1	82.3	154.8	8.4	53.1	126.4
1389	Oil and gas field services, n.e.c.....	57.5	514.8	1,071.7	54.8	358.7	770.4
14	Nonmetallic minerals, except fuels.....	113.0	1,061.2	2,699.4	119.9	812.0	2,288.0
1411	Dimension stone.....	2.7	19.6	42.5	1.9	9.3	18.1
142	Crushed and broken stone.....	39.8	374.4	933.8	42.9	280.8	704.7
1422	Crushed and broken limestone.....	27.9	260.2	630.2	30.8	197.5	492.2
1423	Crushed and broken granite.....	4.3	38.7	109.4	4.5	27.1	80.1
1429	Crushed and broken stone, n.e.c.....	7.6	75.5	194.2	7.7	56.2	132.4
144	Sand and gravel.....	34.2	321.5	774.7	34.6	229.1	547.5
1442	Construction sand and gravel.....	29.9	283.0	688.3	30.5	202.0	481.7
1446	Industrial sand.....	4.3	38.5	86.4	4.1	27.2	65.9
145	Clay and related minerals.....	9.6	83.1	213.3	9.4	57.7	154.6
1452	Bentonite.....	.9	8.1	18.3	.9	5.4	13.2
1453	Fire clay.....	.7	5.2	18.5	.8	5.1	18.5
1454	Fuller's earth.....	1.3	8.8	25.7	1.1	5.1	15.6
1455	Kaolin and ball clay.....	4.1	37.1	99.5	3.7	24.1	65.1
1459	Clay and related minerals, n.e.c.....	2.6	23.9	51.3	2.8	18.0	42.3
147	Chemical and fertilizer minerals.....	19.0	193.4	560.7	23.8	188.2	740.7
1472	Sarite.....	19.0	193.4	560.7	.9	4.7	15.3
1473	Fluorspar.....				.7	4.7	11.0
1474	Potash, soda, and borate minerals.....	19.0	193.4	560.7	7.9	67.8	187.7
1475	Phosphate rock.....				8.1	59.6	199.3
1476	Rock salt.....	19.0	193.4	560.7	2.6	19.3	70.9
1477	Sulfur.....				3.2	30.5	253.2
1479	Chemical and fertilizer mining, n.e.c.....	19.0	193.4	560.7	.3	1.6	3.4
1481	Nonmetallic minerals services.....				.8	5.9	11.2
149	Miscellaneous nonmetallic minerals.....	6.7	58.9	151.8	6.5	41.0	111.2
1492	Gypsum.....	.3	2.4	6.7	.4	2.3	7.4
1496	Talc, soapstone, and pyrophyllite.....	1.0	8.8	23.3	1.2	7.4	16.9
1499	Nonmetallic minerals, n.e.c.....	5.4	47.7	121.8	4.7	31.2	86.9

Note: Detail may not add to totals because of independent rounding.

**U.S. DEPARTMENT OF COMMERCE**  
**Social and Economic Statistics Administration**  
BUREAU OF THE CENSUS  
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PRELIMINARY REPORT

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**1972 CENSUS OF  
MINERAL INDUSTRIES**  
SUMMARY SERIES

C72(P)-1  
ed April 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**General Statistics for Industry Groups and Industries**

(Recapitulation of Preliminary Industry Reports)

This report consists of the general statistics for industries which have been issued in a series of 38 preliminary reports. The data for total employment, payroll, and value added in mining parallel those shown in the advance report, "Total Employment, Payroll, and Value Added in Mining" (MIC72(A)-1), released in November 1973, but represent revised figures based on more detailed review. The table in this summary report provides data on employment, man-hours, payrolls, value added in mining, capital expenditures, cost of supplies and purchased machinery, and value of shipments and receipts for mineral industries. Establishments are classified in mineral industries in accordance with industry definitions described in the 1972 edition of the Standard Industrial Classification (SIC) Manual. Data are included for all industries and industry groups with comparative data from the 1967 Census of Mineral Industries.

For oil and gas field operations and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining, in that respondents were required to submit a separate report for each State or its contiguous off-shore area.

In the 1972 and 1967 censuses, single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded confidentiality, limited data on payrolls, sales, and industry classification from administrative records were made available to the Census Bureau for use in the 1972 censuses. Estimates for data other than payrolls and sales for these small

establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries; for mining as a whole, they account for less than 2 percent of value added.

In the 1972 and 1967 censuses of mineral industries, data for all single-unit establishments without paid employees were defined to be out of scope. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) Value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than five employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product

information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

Respondents were asked to file separate reports for any central administrative offices or auxiliary units. Classification of employment and payroll data at such offices and auxiliary units was based on the mining establishments served. Such data are included in the data for the individual industries and groups shown in this report. Since the figures shown in this report have been subjected to a preliminary review only, they must be regarded as approximations of

the final census figures. No adjustments in the dollar figures have been made for changes in price or wage levels from the comparison year of 1967.

The census of mineral industries is the 17th such census for the United States. The first census was conducted in 1840, and, since World War II, it has been scheduled at 5-year intervals. In recent years, the census of mineral industries has been conducted as part of the economic census program which also includes censuses of manufactures, construction industries, wholesale and retail trade, selected service industries, and transportation.

An explanation of the data items included in this report appears in the appendix.

## General Statistics, for Industry Groups and Industries: 1972 and 1967

(See appendix B for explanation of terms)

1972 code	Industry group and industry	1972										1967		
		Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of industry shipments and receipts (million dollars)	Capital expendi- tures (million dollars)	All employ- ees (1,000)	Value added in mining (million dollars)
		Total (number)	With 20 employ- ees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man- hours (millions)	Wages (million dollars)						
	ALL MINERAL INDUSTRIES, TOTAL....	25,477	5,336	593.7	6,174.2	441.3	913.3	4,258.5	26,656.6	14,888.3	36,467.2	5,077.8	567.3	19,330.2
10	Metal mining.....	1,023	284	80.5	849.9	62.4	125.9	616.1	2,367.5	1,520.7	3,487.2	400.8	70.9	1,556.6
1011	Iron ores.....	114	59	19.8	220.2	15.3	30.2	155.7	702.2	424.1	1,066.2	60.1	22.6	661.9
1021	Copper ores.....	187	70	36.4	388.2	27.8	56.3	279.0	1,014.4	767.4	1,572.6	209.2	20.9	436.5
1031	Leading and zinc ores.....	102	47	7.7	72.0	6.2	12.3	54.7	198.5	77.9	250.3	26.2	9.1	102.6
104	Gold and silver ores.....	134	12	2.8	30.0	2.3	4.9	22.5	60.3	19.7	74.6	5.3	3.8	51.4
1041	Gold ores and placers.....	81	5	1.8	19.6	1.5	3.4	15.2	46.6	12.5	55.5	3.5	2.6	35.4
1044	Silver ores.....	53	7	1.0	10.4	.8	1.5	7.3	13.7	7.2	19.1	1.8	1.2	16.0
1051	Saxuite and other aluminum ores...	10	5	.5	4.4	.3	.6	2.8	24.0	7.6	28.0	3.6	.6	22.5
1061	Ferroalloy ores, except vanadium...	42	14	3.7	40.1	2.8	5.4	28.4	135.2	61.3	160.5	36.0	4.0	73.5
1081	Metal mining services.....	168	31	2.4	24.2	2.1	4.3	21.0	47.7	19.3	63.5	3.5	2.6	33.6
109	Miscellaneous metal ores.....	266	46	7.2	70.8	5.6	11.9	52.0	185.2	143.4	271.5	56.9	7.3	174.8
1094	Uranium-radium-vanadium ores.....	145	34	5.9	58.2	4.6	9.8	42.9	155.0	114.7	227.1	42.4	5.4	142.1
1092	Mercury ores.....	121	12	1.3	12.6	1.0	2.1	9.1	30.2	28.7	44.4	14.5	1.9	32.7
1099	Metal ores, n.e.c.....													
11	Anthracite mining.....	228	49	4.3	34.9	3.8	7.6	30.0	72.7	68.7	134.6	6.8	7.2	82.1
1111	Anthracite.....	211	40	3.8	31.5	3.3	6.7	26.9	67.3	66.2	127.5	6.0	6.4	74.7
1112	Anthracite mining services.....	17	9	.5	3.4	.5	.9	3.1	5.4	2.5	7.1	.8	.8	7.4
12	Bituminous coal and lignite mining.....	3,374	1,115	154.1	1,736.3	131.3	260.3	1,429.1	3,651.4	2,362.6	5,329.4	684.7	124.4	2,009.2
1211	Bituminous coal and lignite.....	3,192	1,072	151.1	1,706.5	128.6	255.2	1,403.8	3,586.0	2,328.7	5,239.9	674.8	123.0	1,987.5
1213	Bituminous and lignite mining services.....	182	43	3.0	29.8	2.7	5.1	25.3	65.4	33.9	89.5	9.9	1.4	21.7
13	Oil and gas extraction.....	14,698	2,424	239.7	2,475.7	154.4	322.8	1,410.4	17,840.8	9,536.3	23,865.5	3,511.6	244.9	13,394.3
1311	Crude petroleum and natural gas...	7,770	840	112.4	1,310.2	52.3	104.6	511.3	14,666.1	4,283.9	15,929.7	3,020.3	126.4	10,965.0
1321	Natural gas liquids.....	678	191	10.7	116.3	8.9	18.2	95.6	1,013.9	4,145.3	5,055.4	103.8	12.4	905.0
138	Oil and gas field services.....	6,250	1,393	116.6	1,049.2	93.2	200.0	803.5	2,160.8	1,107.1	2,880.4	387.5	106.1	1,524.1
1381	Drilling oil and gas wells.....	1,928	578	48.8	439.1	40.4	85.2	365.3	911.6	591.2	1,276.3	226.5	42.9	627.4
1382	Oil and gas exploration services..	731	92	9.8	88.6	7.4	17.1	60.9	158.0	64.2	203.4	18.8	8.4	126.4
1389	Oil and gas field services, n.e.c..	3,591	723	58.0	521.5	45.4	97.7	377.3	1,091.2	451.7	1,400.7	142.2	54.8	770.4
14	Nonmetallic minerals, except fuels.....	6,154	1,464	115.1	1,077.4	89.4	196.7	772.9	2,724.2	1,400.0	3,650.5	473.9	119.9	2,288.0
1411	Dimension stone.....	194	25	2.0	12.3	1.7	2.9	10.0	24.1	6.2	28.7	1.7	1.9	18.1
142	Crushed and broken stone.....	1,929	668	41.3	385.3	33.3	76.0	290.3	969.7	522.9	1,307.6	185.0	42.9	704.7
1422	Crushed and broken limestone.....	1,383	473	29.4	275.1	23.7	53.5	204.0	668.7	348.8	885.6	131.9	30.8	492.2
1423	Crushed and broken granite.....	155	95	4.5	38.5	3.9	9.7	32.3	117.1	79.1	166.9	29.3	4.5	80.1
1429	Crushed and broken stone, n.e.c..	391	100	7.4	71.7	5.7	12.8	54.0	183.9	95.0	255.1	23.8	7.7	132.4
144	Sand and gravel.....	2,932	459	34.7	327.7	26.8	58.7	237.8	780.5	369.1	1,011.7	137.9	34.6	547.5
1442	Construction sand and gravel.....	2,764	395	30.3	287.3	23.6	51.7	210.8	688.7	319.1	886.3	121.5	30.5	481.7
1446	Industrial sand.....	168	64	4.4	40.4	3.2	7.0	27.0	91.8	50.0	125.4	16.4	4.1	65.9
145	Clay and related minerals.....	310	110	9.1	78.4	7.3	16.2	56.9	198.9	124.5	294.2	29.3	9.4	154.6
1452	Bentonite.....	37	18	.9	8.2	.6	1.4	4.9	19.9	13.0	31.1	1.9	.9	13.2
1453	Fireclay.....	81	6	.5	4.1	.5	.9	3.2	15.3	5.9	20.1	1.1	.8	18.5
1454	Fuller's earth.....	14	11	1.2	7.8	1.1	2.4	6.6	18.1	12.4	26.5	4.0	1.1	15.6
1455	Kaolin and ball clay.....	49	28	3.9	34.3	3.0	6.6	24.2	92.7	58.6	135.7	15.6	3.7	65.1
1459	Clay, ceramic, and refractory minerals, n.e.c.....	129	47	2.6	24.0	2.1	4.9	18.0	52.9	34.6	80.8	6.7	2.8	42.3
147	Chemical and fertilizer minerals	210	111	20.4	207.8	14.1	29.9	128.2	590.9	286.1	788.3	88.8	23.8	740.7
1472	Barite.....	27	12	.8	5.4	.7	1.4	4.5	18.7	4.4	21.6	1.5	.9	15.3
1473	Fluorspar.....	37	10	.8	7.9	.7	1.6	6.4	15.9	15.2	28.4	2.7	.7	11.0
1474	Potash, soda, and borate minerals.	32	21	6.9	77.2	4.8	10.3	48.6	214.3	105.4	261.2	58.6	7.9	187.7
1475	Phosphate rock.....	49	26	6.0	54.5	4.2	8.9	34.2	158.2	112.5	254.8	16.0	8.1	199.3
1476	Rock salt.....	32	20	2.8	26.8	2.1	4.4	18.1	74.1	19.4	86.5	7.0	2.6	70.9
1477	Sulfur.....	26	19	2.9	34.6	1.5	3.0	15.4	105.9	25.7	129.7	1.9	3.2	253.2
1479	Chemical and fertilizer mining, n.e.c.....	7	3	.2	1.4	.1	.3	1.0	3.6	3.5	6.1	1.1	.3	3.4
1481	Nonmetallic minerals services....	120	9	.9	9.2	.7	1.6	7.1	16.2	9.1	23.1	2.2	.8	11.2
149	Miscellaneous nonmetallic minerals.....	459	82	6.7	56.7	5.5	11.4	42.6	143.8	82.1	196.9	29.0	6.5	111.2
1492	Gypsum.....	18	6	.3	2.6	.3	.5	1.9	6.9	2.7	9.0	.6	.4	7.3
1496	Talc, soapstone, and pyrophyllite.	39	13	.8	7.0	.7	1.5	5.5	14.5	10.4	23.3	1.6	1.2	16.9
1499	Miscellaneous nonmetallic minerals, n.e.c.....	402	63	5.6	47.1	4.5	9.4	35.2	122.4	69.0	164.6	26.8	4.7	86.9

<sup>r</sup> Revised.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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MINERAL INDUSTRIES**  
SUMMARY SERIES

MIC72(P)-2  
Issued May 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**General Statistics for Geographic Divisions and States**

This report presents preliminary results from the 1972 Census of Mineral Industries for geographic divisions and States. The table in this summary report provides data on employment, man-hours, payrolls, value added in mining, capital expenditures, cost of supplies and purchased machinery, and value of shipments and receipts for geographic divisions and States. Establishments are classified in mining in accordance with the definition described in the 1972 edition of the Standard Industrial Classification (SIC) Manual.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining in that respondents were required to submit a separate report for each State or its contiguous offshore area.

In the 1972 and 1967 censuses, single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded confidentiality, limited data on payrolls, sales, and industry classification from administrative records were made available to the Census Bureau for use in the censuses. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added.

In the 1972 and 1967 censuses of mineral industries, data for all single-unit establishments without paid employees were defined to be out of scope. The exclusion of these establishments has had only a slight

effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) Value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

Respondents were asked to file separate reports for any central administrative offices or auxiliary units. Classification of employment and payroll data at such offices and auxiliary units was based on mining establishments served. Such data are included in the data for the individual industries and groups shown in this report. Since the figures shown in this report have been subjected to a preliminary review only, they must be regarded as approximations of the final census figures. No adjustments in the dollar figures have been made for changes in price or wage levels from the comparison year of 1967.

The census of mineral industries is the 17th such census for the United States. The first census was conducted in 1840, and since World War II, it has been scheduled at 5-year intervals. However, for a variety of reasons, the actual censuses were conducted for 1954, 1958, 1963, 1967, and 1972. In recent years, the census of mineral industries has been conducted as part of the Economic Census Program which also includes censuses of construction industries, manufactures, wholesale trade, retail trade, selected services, and transportation.

An explanation of the data items included in this report appears in the appendix.

## General Statistics, by Geographic Areas: 1972 and 1967

(Represents establishments classified in the mineral industries only. Excludes data for stone, sand and gravel, clay, and gypsum mines operated as parts of manufacturing establishments.)

Geographic area	1972											1967	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
United States, total..	25,477	5,336	593.7	6,174.2	441.3	913.3	4,258.5	26,656.6	14,888.3	36,467.2	5,077.8	567.3	19,330.2
New England Division.....	294	52	3.6	36.9	2.8	5.4	24.6	75.7	35.4	96.2	14.9	3.9	51.4
Maine.....	36	3	.2	1.6	.2	.3	1.3	4.6	5.5	4.9	5.2	.3	3.0
New Hampshire.....	27	3	.2	2.4	.2	.5	2.0	5.8	2.8	7.7	.9	.2	3.3
Vermont.....	35	10	.7	6.3	.7	1.3	5.0	14.2	4.9	17.3	1.8	.9	11.7
Massachusetts.....	117	21	1.4	15.8	.9	1.7	8.5	28.2	11.7	35.8	4.1	1.3	17.0
Rhode Island.....	15	5	.3	2.6	.2	.5	2.2	4.2	2.8	6.4	.6	.3	3.3
Connecticut.....	64	10	.8	8.2	.6	1.1	5.6	18.7	7.7	24.1	2.3	.9	13.1
Middle Atlantic Division..	2,196	450	52.8	563.8	40.5	84.0	407.5	1,133.5	733.4	1,664.5	202.4	54.3	791.1
New York.....	484	78	8.6	104.7	5.2	11.3	51.5	162.2	71.0	204.7	28.5	9.1	137.5
New Jersey.....	146	39	2.9	29.2	2.0	4.2	18.8	75.3	39.7	96.8	18.2	2.9	50.6
Pennsylvania.....	1,566	333	41.3	429.9	33.3	68.5	337.2	896.0	622.7	1,363.0	155.7	42.3	603.0
East North Central Div....	3,061	535	60.6	664.1	48.3	100.9	505.9	1,587.7	878.5	2,155.8	310.4	59.6	1,212.2
Ohio.....	1,113	190	20.2	212.4	16.0	33.2	158.0	462.2	278.8	626.6	114.4	17.8	281.4
Indiana.....	462	71	6.1	68.4	4.8	10.0	53.1	208.5	84.8	253.6	39.7	6.5	134.6
Illinois.....	863	178	20.4	237.4	16.6	35.0	186.4	545.6	266.5	731.5	80.6	20.7	468.5
Michigan.....	412	70	11.4	120.8	9.1	18.7	91.3	309.9	224.4	466.0	68.3	12.2	289.9
Wisconsin.....	211	26	2.5	25.1	1.8	4.0	17.1	61.5	24.0	78.1	7.4	2.4	37.8
West North Central Div....	2,139	335	36.7	358.7	27.4	56.0	249.2	1,398.3	699.3	1,930.7	166.9	40.9	1,137.6
Minnesota.....	198	47	11.8	130.4	9.3	17.9	93.1	500.1	251.4	714.9	36.6	12.9	415.0
Iowa.....	227	37	2.6	24.0	2.1	4.7	17.6	54.3	26.4	71.8	8.9	2.8	43.6
Missouri.....	344	68	8.4	80.4	5.4	10.9	49.2	207.3	84.4	252.9	38.8	8.9	103.6
North Dakota.....	142	22	1.5	15.6	1.2	2.4	11.2	82.7	37.7	104.0	16.4	1.9	76.9
South Dakota.....	72	11	1.9	19.5	1.6	3.5	15.3	37.1	22.1	53.4	5.8	2.2	23.6
Nebraska.....	221	20	1.4	13.1	1.1	2.5	9.7	39.8	18.6	53.0	5.4	1.6	43.1
Kansas.....	935	130	9.1	75.7	6.7	14.1	53.1	477.0	258.7	680.7	55.0	10.6	431.8
South Atlantic Division...	2,806	785	92.0	930.8	76.6	155.8	745.1	2,210.9	1,457.4	3,213.9	454.4	80.2	1,335.1
Delaware.....													
Maryland.....	144	31	2.1	19.3	1.5	3.5	14.5	54.9	26.9	72.8	9.0	2.2	35.3
District of Columbia.....													
Virginia.....	583	171	16.6	164.1	14.2	27.9	132.2	394.4	281.8	601.6	74.6	13.0	178.5
West Virginia.....	1,405	361	53.3	579.6	45.1	88.6	474.8	1,213.2	707.6	1,703.0	217.8	45.6	744.4
North Carolina.....	161	63	3.4	26.6	3.0	6.5	21.0	70.1	50.7	109.0	11.8	3.5	46.7
South Carolina.....	65	26	1.9	13.4	1.5	3.4	10.5	41.0	20.3	55.3	6.0	1.6	21.5
Georgia.....	170	64	6.5	53.5	5.4	12.4	43.3	154.4	102.5	223.5	33.4	6.2	106.4
Florida.....	278	69	8.2	74.3	5.9	13.5	48.8	282.9	267.6	448.7	101.8	8.1	202.3
East South Central Div....	2,216	565	51.6	500.8	44.6	89.9	416.9	1,391.0	978.5	2,071.0	298.5	43.7	859.9
Kentucky.....	1,226	295	30.2	304.5	26.1	51.7	256.7	751.9	557.4	1,174.6	134.7	24.6	403.0
Tennessee.....	352	96	7.2	60.9	6.2	13.0	48.1	148.1	100.7	221.3	27.5	6.9	116.2
Alabama.....	288	89	8.8	88.4	8.0	16.2	77.6	262.9	159.1	362.5	59.5	7.9	151.1
Mississippi.....	350	85	5.4	47.0	4.3	9.0	34.5	228.1	161.3	312.6	76.8	4.3	189.6
West South Central Div....	8,299	1,702	175.6	1,811.7	112.1	238.0	999.2	13,644.2	7,203.7	18,402.4	2,445.5	176.2	10,089.0
Arkansas.....	288	45	3.8	32.5	3.0	6.0	22.9	140.8	57.3	175.8	22.3	4.1	129.7
Louisiana.....	1,360	453	51.0	547.3	35.1	75.7	328.8	5,585.6	3,355.7	7,695.0	1,246.3	46.5	3,983.3
Oklahoma.....	1,719	273	26.7	263.3	16.3	32.7	138.6	1,107.6	572.8	1,480.8	199.6	30.1	985.1
Texas.....	4,932	931	94.1	968.6	57.7	123.6	508.9	6,810.2	3,217.9	9,050.8	977.3	95.5	4,990.9
Mountain Division.....	2,769	584	85.2	891.0	65.3	135.0	653.3	3,360.7	2,099.8	4,668.8	791.7	68.0	2,234.6
Montana.....	268	41	5.5	55.6	4.6	9.6	45.9	155.3	151.7	276.7	30.3	5.5	129.2
Idaho.....	91	19	2.8	28.4	2.4	4.7	22.5	53.4	38.5	86.7	5.2	3.1	48.1
Wyoming.....	514	118	11.5	122.2	8.9	19.2	92.9	715.8	382.6	906.6	191.8	8.7	501.8
Colorado.....	685	126	13.3	152.6	8.7	18.0	90.3	405.6	224.6	525.6	104.6	12.0	251.4
New Mexico.....	583	141	16.9	162.6	13.4	27.7	126.7	932.3	552.1	1,310.7	173.7	16.6	718.8
Arizona.....	186	47	20.8	222.8	16.3	33.6	164.7	615.5	393.0	842.2	166.3	10.7	296.7
Utah.....	300	74	11.3	115.2	8.7	17.4	86.5	380.6	298.7	565.1	114.2	8.5	233.7
Nevada.....	142	18	3.1	31.6	2.3	4.8	23.8	102.2	58.6	155.2	5.6	2.9	54.9
Pacific Division.....	1,697	328	35.6	416.4	23.7	48.3	256.8	1,854.6	802.3	2,263.9	393.1	40.4	1,619.3
Washington.....	175	23	1.9	18.3	1.7	3.2	14.8	47.0	24.2	57.6	13.7	1.6	21.3
Oregon.....	136	18	1.4	13.2	1.1	2.3	9.8	37.9	16.2	48.7	5.4	1.4	27.3
California.....	1,243	249	29.4	338.5	18.9	38.6	203.9	1,402.2	636.5	1,788.2	250.5	35.0	1,342.2
Alaska.....	128	33	2.7	44.0	1.8	3.9	26.5	360.3	121.4	360.2	121.5	2.2	223.5
Hawaii.....	15	5	.2	2.4	.2	.3	1.8	7.2	4.0	9.2	2.0	.2	5.0

## Appendix A. SCOPE AND COVERAGE

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(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

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**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.



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BUREAU OF THE CENSUS  
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1972 CENSUS OF  
**MINERAL INDUSTRIES**  
INDUSTRY SERIES

C72(P)-10A  
ed January 1974

U.S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

### Iron Ores, SIC 1011

The Iron Ores Industry includes establishments primarily engaged in mining, beneficiating, or otherwise preparing iron ores and manganiferous ores valued chiefly for their iron content. This industry includes production of sinter and other agglomerates except those associated with blast furnace operations. Establishments primarily engaged in producing pig iron from iron ore are classified in major group 33.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the

Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Iron Ores Industry amounted to \$1,066 million, an increase of 12 percent compared with 1967. Value added in mining amounted to \$702 million in 1972, an increase of 6 percent from 1967. Average employment in the industry showed a decrease of 12 percent from 1967 to a total of 19.8 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1011.--IRON ORES											
1972 .....	114	59	19.8	220.2	15.3	30.2	155.7	702.2	424.1	1,066.2	60.1
1967 .....	146	79	22.6	185.9	18.0	36.2	133.4	661.9	400.3	953.4	108.8
1963 .....	208	101	23.1	161.6	18.1	34.5	112.8	549.3	309.6	762.2	96.6
1958 .....	243	128	30.1	169.0	22.5	39.9	116.3	487.7	219.4	664.5	42.6
1954 .....	225	135	34.2	156.9	28.2	53.3	119.7	435.7	196.5	547.2	85.0

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of industry shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1011.--IRON ORES													
United States, total.	114	59	19.8	220.2	15.3	30.2	155.7	702.2	424.1	1,066.2	60.1	22.6	661.9
North Central Region.....	62	45	15.9	180.0	12.1	23.8	124.6	628.2	360.9	933.2	55.8	16.8	545.4
West Region.....	15	6	1.8	18.6	1.4	3.0	14.5	28.9	38.2	64.9	2.3	2.3	64.8

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972			1967		
			Production	Shipments including interplant transfers		Production	Shipments including interplant transfers	
				Quantity	Value (million dollars)		Quantity	Value (million dollars)
UNITED STATES								
10111--	Iron ores, net production and shipments, total <sup>1</sup> .....	Mil. 1. tons	76.4	78.2	979.0	85.9	82.7	863.2
10111 --	Crude iron ores, total.....	...do.....	185.9	(D)	(D)	178.8	(D)	(D)
10111 21	Direct-shipping ores.....	...do.....	6.1	6.4	39.1	16.6	16.0	112.7
10111 23	Beneficiating-grade ores.....	...do.....	179.8	(D)	(D)	162.3	(D)	(D)
10112 03	Treated iron ores (including washed material).....	...do.....	72.1	(D)	(D)	70.2	(D)	(D)
10112 08	For consumption.....	...do.....	14.4	14.1	106.2	24.8	22.6	176.9
10112 08	For agglomeration.....	...do.....	57.7	(D)	(D)	45.4	(D)	(D)
10112 06	Agglomerates.....	...do.....	55.9	56.9	833.7	44.6	44.1	573.6
10112 08	Pellets.....	...do.....	53.7	54.1	794.6	42.0	41.5	542.9
10112 08	Sinter, briquets, and other.....	...do.....	2.2	2.8	39.1	2.6	2.6	30.7
NORTH CENTRAL REGION								
10111 --	Iron ores, net production and shipments, total <sup>1</sup> .....	...do.....	65.1	66.5	845.6	68.1	65.3	698.7
10111 --	Crude iron ores, total.....	...do.....	(D)	(D)	(D)	147.9	(D)	(D)
10111 21	Direct-shipping ores.....	...do.....	(D)	(D)	(D)	14.7	14.1	98.6
10111 23	Beneficiating-grade ores.....	...do.....	158.1	(D)	(D)	133.2	(D)	(D)
10112 03	Treated iron ores (including washed material).....	...do.....	(D)	(D)	(D)	54.9	(D)	(D)
10112 05	For consumption.....	...do.....	(D)	(D)	(D)	17.0	15.3	122.6
10112 05	For agglomeration.....	...do.....	50.7	(D)	(D)	37.9	(D)	(D)
10112 06	Agglomerates.....	...do.....	48.8	49.8	726.2	36.3	35.9	477.5

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Represents the sum of direct-shipping ores, treated iron ores for consumption, and iron agglomerates.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1011.--IRON ORES						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	323.5	(X)	297.6
	Ores and other iron and manganese-bearing materials for preparation:					
100093	Crude ores received for preparation.....	Mil. 1. tons..	{(1)}	(1)	37.0	91.9
100095	Prepared ores received for agglomeration.....	...do.....	151.1	(X)	127.2	(X)
100093	Crude ores produced and prepared at same establishment.....	...do.....	55.1	(X)	42.6	(X)
100095	Prepared ores produced and agglomerated at same establishment.....	...do.....	(X)	41.0	(X)	49.0
353011	Purchased machinery installed.....	.....	(X)	87.1	82.8	10.5
	Supplies used:			73.6	67.8	3.9
289211	Explosive materials, except ammonium nitrate.....	Million lb....	(X)	1.9	(X)	1.7
289212	Ammonium nitrate.....	...do.....	1,000 s. tons.	40.6	(NA)	34.1
289214	Blasting accessories.....	.....	(X)	.5	(X)	.7
331201	Steel mill shapes and forms.....	.....	(X)	221.6	(X)	104.5
241100	Round or hewn wood products or stumps.....	.....	(X)	3.5	(X)	1.2
970099	All other supplies.....	.....	(X)			
974000	Undistributed supplies, minerals received for preparation and purchased machinery installed <sup>2</sup> .....	.....	(X)			

(X) Not applicable. (NA) Not available.

<sup>1</sup>Included with code 970099, "All other supplies" to avoid disclosing figures for individual companies.<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

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**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

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For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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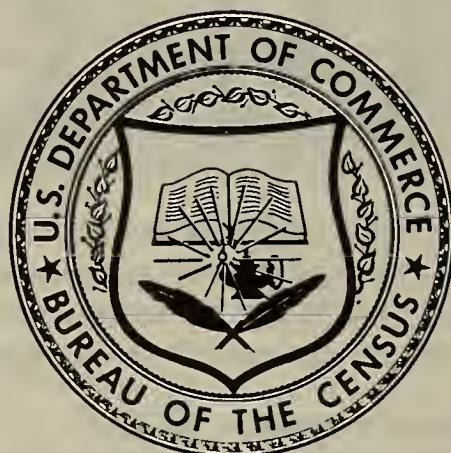
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PRELIMINARY REPORT

HIC  
**1972 CENSUS OF  
MINERAL INDUSTRIES**  
84-74  
INDUSTRY SERIES

72(P)-10B-1  
ed January 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

## Copper Ores, SIC 1021

The Copper Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing copper ores. This industry also includes establishments primarily engaged in the recovery of copper concentrates by precipitation and leaching of copper ores. Establishments primarily engaged in the recovery of refined copper by leaching copper concentrates are classified in SIC Major Group 33.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Copper Ores Industry amounted to \$1,573 million. Value added in mining amounted to \$1,014 million in 1972. Average employment in the industry amounted to 36.4 thousand employees in 1972. Percentage changes between 1972 and 1967 were not computed because of the industrywide labor strike during most of the second half of 1967. For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1021.--COPPER ORES											
1972 .....	187	70	36.4	388.2	27.8	56.3	279.0	1,014.4	767.4	1,572.6	209.2
1967 <sup>1</sup> .....	156	62	20.9	170.9	15.0	32.5	114.6	436.5	361.6	675.9	122.1
1963 .....	160	41	26.5	187.3	21.4	45.3	142.4	417.1	340.2	670.2	87.1
1958 <sup>2</sup> .....	148	38	27.6	143.5	20.9	41.0	106.4	266.5	236.0	457.6	44.9
1954 <sup>3</sup> .....	210	41	27.8	136.1	21.5	46.7	98.5	334.9	256.1	508.7	82.2

Note: Data prior to 1954 appear in Volume 1, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

<sup>1</sup>Reflects a substantial decrease in activity caused by a labor strike during most of the second half of 1967 which affected all but a few copper mining and milling operations.<sup>2</sup>Excludes data for copper ores in Alaska. For 1958, there were 9 copper establishments with 6 employees.<sup>3</sup>Excludes data for 2 copper ores establishments in Alaska with less than 15 employees.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967 <sup>1</sup>			
			Production	Shipments including interplant transfers		Production		
				Quantity	Value (million dollars)			
UNITED STATES								
1021- --	Copper ores, total.....	.....	(X)	(X)	1,516.5	(X)	(X)	654.4
10211 --	Crude copper ores, total <sup>2</sup> .....	Mil. tons.	261.3	(X)	127.5	(X)	(X)	
10211 0-	Crude ore mined, total.....	...do....	261.3	(X)	127.5	(X)	(X)	
10211 03	From underground operations.....	...do....	34.7	(X)	17.0	(X)	(X)	
10211 05	From open-pit operations.....	...do....	226.6	(X)	110.5	(X)	(X)	
10211 2-	Ore and residues shipped to smelters and mills, total.....	...do....	74.0	74.0	220.4	45.6	45.6	118.4
10211 21	To smelters.....	...do....	.(D)	(D)	(D)	.6	.6	4.3
10211 23	To mills.....	...do....	(D)	(D)	(D)	45.0	45.0	114.1
10212 01	Copper concentrates.....	...do....	5.8	5.9	1,096.0	3.0	2.9	459.8
10213 01	Copper precipitates.....	...do....	.3	.3	195.4	.2	.2	76.2
10210 00	Copper ores, n.s.k.....	.....	(X)	(X)	4.7	(X)	(X)	-

- Represents zero. (X) Not applicable. (D) Withheld to avoid disclosing individual company data. n.s.k. Not specified by kind.

<sup>1</sup>Reflects a substantial decrease in activity caused by a labor strike during the last half of 1967 which affected all but a few copper mining and milling operations.<sup>2</sup>Detail does not add to total due to the exclusion of ores and residues for shipment to smelters and mills which are already included under crude ore mined.

**TABLE 4. Selected Supplies, Materials Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967**

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1021.--COPPER ORES						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	635.3	(X)	306.8
100091	Minerals received for preparation:					
100091	Crude ores and residues.....	Mil. s. tons..	73.7	220.1	124.4	{ (1)
	Crude ore mined and prepared at same establishment.....	...do.....	181.4	(X) }		(X)
353011	Purchased machinery installed.....	.....	(X)	147.1	(X)	81.5
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	Million lb....	54.8	5.5	112.7	6.6
289212	Ammonium nitrate.....	...do.....	171.6	6.9		
289214	Blasting accessories.....	.....	(X)	4.0	(X)	1.3
331201	Steel mill shapes and forms.....	1,000 s. tons.	(X)	31.1	(NA)	18.1
970099	All other supplies.....	.....	(X)	218.8	(X)	198.3
974000	Undistributed supplies, minerals received for preparation, and purchased machinery installed <sup>2</sup> .....	.....	(X)	1.7	(X)	1.0

(X) Not applicable. (NA) Not available.

<sup>1</sup>For 1967, the cost of minerals received for preparation is combined with all other supplies.<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1021, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

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Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

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Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

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**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

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**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

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PRELIMINARY REPORT

**1972 CENSUS OF  
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72(P)-10B-2  
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**Lead and Zinc Ores, SIC 1031**

The Lead and Zinc Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing lead ores, zinc ores, or lead-zinc ores.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the

SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Lead and Zinc Ores Industry amounted to \$250 million, an increase of 66 percent compared with 1967. Value added in mining amounted to \$198 million in 1972, an increase of 94 percent from 1967. Average employment in the industry showed a decrease of 15 percent from 1967 to a total of 7.7 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

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TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1031.--LEAD AND ZINC ORES											
1972.....	102	47	7.7	72.0	6.2	12.3	54.7	198.5	77.9	250.3	26.2
1967.....	167	57	9.1	60.9	7.5	15.0	46.2	102.6	92.4	151.2	43.8
1963.....	205	46	9.4	49.3	7.8	14.8	37.9	84.4	63.5	136.0	11.9
1958 <sup>1</sup> .....	288	52	11.2	54.4	8.7	16.7	39.0	73.7	55.5	120.6	8.6
1954.....	520	90	16.6	71.4	13.6	27.6	53.7	107.4	80.1	175.9	11.5

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

<sup>1</sup>Excludes data for lead ores in Alaska. For 1958, there were two establishments in Alaska with 0 to 4 employees.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures, new	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1031.--LEAD AND ZINC ORES													
United States, total.	102	47	7.7	72.0	6.2	12.3	54.7	198.5	77.9	250.3	26.2	9.1	102.6
South Region.....	19	10	1.4	10.5	1.1	2.1	7.7	17.9	15.2	30.6	2.4	1.8	19.4
West Region.....	60	20	3.1	29.9	2.7	5.2	24.3	53.4	26.9	74.2	6.1	4.4	49.1
Mountain Division.....	46	18	2.9	28.6	2.6	5.0	23.3	52.2	25.4	71.9	5.7	4.1	45.7
Pacific Division.....	14	2	.2	1.3	.1	.3	1.0	1.1	1.5	2.3	.4	.3	3.4

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967	
			Production	Shipments including interplant transfers	Production	Shipments including interplant transfers
				Quantity		Quantity
UNITED STATES						
1031- --	Lead and zinc ores, total.....	.....	(X)	(X)	247.0	(X)
10311 --	Crude lead and zinc ores.....	Million s. tons.	17.9	2.9	18.7	17.1
10311 03	Crude ore mined.....	...do.....	17.9	(X)	(X)	(X)
10311 05						
10311 33						
10311 21						
10311 23	Ores and residues for shipment.....	...do.....	2.9	2.9	18.7	2.1
10311 41						
10311 43						
10312 --	Lead and zinc concentrates.....	...do.....	1.8	1.8	227.3	1.3
10312 01	Lead concentrates.....	...do.....	.9	.9	137.3	.4
10312 21	Zinc concentrates.....	...do.....	.9	.9	90.0	.9
10310 00	Lead and zinc ores, n.s.k.....	.....	(X)	(X)	.9	(X)
NORTH CENTRAL REGION						
10311 03	Crude lead and zinc ores mined from underground operations.....	Million s. tons.	9.1	(X)	(X)	(NA)
10311 33	Lead concentrates.....	...do.....	.7	.7	104.5	(NA)
10312 01						(NA)
COLORADO						
1031- --	Lead and zinc ores, total.....	.....	(X)	(X)	22.9	(X)
10311 03	Crude ore mined.....	Million s. tons.	1.5	(X)	(X)	1.1
10311 05						
10311 33						
10312 --	Lead and zinc concentrates.....	...do.....	.3	.3	22.9	.1
10312 01	Lead concentrates.....	...do.....	.1	.1	9.2	.1
10312 21	Zinc concentrates.....	...do.....	.2	.2	13.7	.1

- Represents zero. (X) Not applicable. (NA) Not available.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1031.--LEAD AND ZINC ORES						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	60.7	(X)	63.3
100091	Ores and residues prepared in the lead and zinc industry:					
100091	Received from other establishments for preparation.....	Mil. s. tons..	17.9	{ (1) (X) }	16.9	{ (1) (X) }
	Mined and prepared at same establishment.....	...do.....				
353011	Purchased machinery installed.....	.....	(X)	14.4	(X)	16.7
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	Million lb....	8.9	2.1	15.3	2.1
289212	Ammonium nitrate.....	...do.....	8.2	.4		
289214	Blasting accessories.....	.....	(X)	1.5	(X)	(1)
331201	Steel mill shapes and forms.....	1,000 s. tons.	(X)	4.8	22.8	5.4
970099	All other supplies.....	.....	(X)	135.8	(X)	138.7
974000	Undistributed supplies, minerals received for preparation, and purchased machinery installed <sup>2</sup> .....	.....	(X)	1.5	(X)	.5

Note: Detail may not add to totals due to independent rounding.

(X) Not applicable.

<sup>1</sup>This item is included with "All other supplies" to avoid disclosing individual company data.<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1031, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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PRELIMINARY REPORT

1972 CENSUS OF  
MINERAL INDUSTRIES  
INDUSTRY SERIES

72(P)-10B-3  
d January 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

## Gold Ores, SIC 1041

The Gold Ores Industry includes establishments primarily engaged in mining gold ores from lode deposits or in the recovery of gold from placer deposits by any method. In addition to ore dressing methods such as crushing, grinding, gravity concentration, and froth flotation, this industry includes amalgamation, cyanidation, and the production of bullion at the mine, mill, or dredge site.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC

manual, were significantly changed in comparison with data classified by the previous system. The current Gold Ores Industry is the sum of the former lode gold (1042) and placer gold (1043) industries.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Gold Ores Industry amounted to \$56 million, an increase of 24 percent compared with 1967. Value added in mining amounted to \$47 million in 1972, an increase of 32 percent from 1967. Average employment in the industry showed a decrease of 31 percent from 1967 to a total of 1.8 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1041.--GOLD ORES											
1972 .....	81	5	1.8	19.6	1.5	3.4	15.2	46.6	12.5	55.5	3.5
1967 .....	125	8	2.6	17.3	2.2	5.0	13.8	35.4	11.2	44.8	1.8
1963 .....	359	7	2.8	16.0	2.4	5.2	13.2	27.1	10.9	34.1	3.9
1958 <sup>1</sup> .....	409	18	3.4	17.4	3.0	6.5	14.9	31.8	13.0	42.1	2.6
1954 .....	594	22	4.4	19.2	3.9	9.0	16.2	32.3	14.7	43.5	3.5

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to industry 1042 and industry 1043.

<sup>1</sup>Excludes data for lode gold in Alaska. For 1958, 7 lode gold establishments (with 0 to 4 employees) were reported in Alaska.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	1972			1967		
		Production (million short tons)	Shipments including interplant transfers		Production (million short tons)	Shipments including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
UNITED STATES							
1041- --	Gold Ores, total.....	(X)	(X)	55.5	(X)	(X)	44.0
10411 0-	Crude lode gold ore mined.....	3.7	(X)	(X)	3.2	(X)	(X)
10412 01	Lode gold concentrates, mill bullion, and precipitates.....	(X)	(X)	54.2	(X)	(X)	41.0
10413 03		(D)	(D)	1.2	{	<sup>1</sup> 63.8	<sup>1</sup> 63.1
10417 07	Placer gold production and shipments.....	(X)	(X)		(X)	2.2	.8
10410 00	Gold ores, n.s.k.....						

(X) Not applicable. (D) Withheld to avoid disclosing figures for individual companies. n.s.k. Not specified by kind.

<sup>1</sup>Approximately 15 percent of these figures were estimated.

**TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967**

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1041.--GOLD ORES						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	10.4	(X)	8.9
100091	Ores prepared in the gold ores industry:					
104170	Mined and prepared at same establishment.....	Mil. s. tons..	3.4	(X)	3.2	(X)
353011	Gravel washed in placer operations.....	Mil. cu. yd..	(D)	(X)	7.6	(X)
	Purchased machinery installed.....				(X)	1.4
970099	Supplies used:					
974000	All other supplies.....		(X)	10.4	(X)	7.1
	Undistributed supplies, minerals received for preparation, and purchased machinery installed <sup>1</sup> .....				(X)	.4

(X) Not applicable. (D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

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This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1041, these small establishments also accounted for less than 2 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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PRELIMINARY REPORT

1972 CENSUS OF  
MINERAL INDUSTRIES  
INDUSTRY SERIES

72(P)-10B-4  
January 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**Silver Ores, SIC 1044**

The Silver Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing silver ores. The production of bullion at the mine or mill site is included also.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC

manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Silver Ores Industry amounted to \$19 million, an increase of 3 percent compared with 1967. Value added in mining amounted to \$14 million in 1972, a decrease of 14 percent from 1967. Average employment in the industry showed a decrease of 17 percent from 1967 to a total of 1.0 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1044.--SILVER ORES											
1972 .....	53	7	1.0	10.4	0.8	1.5	7.3	13.7	7.2	19.1	1.8
1967 .....	58	7	1.2	8.2	1.0	1.9	6.4	16.0	5.1	18.5	2.6
1963 .....	107	8	1.5	8.8	1.2	2.3	6.8	21.9	7.4	26.1	3.3
1958 .....	61	5	1.0	5.8	.9	1.7	4.8	10.4	3.3	12.6	1.2
1954 .....	101	3	1.3	6.0	1.1	2.2	5.0	9.9	3.4	12.1	1.1

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967			
			Production	Shipments including interplant transfers		Production		
				Quantity	Value (million dollars)			
UNITED STATES								
1044- --	Silver ores, total.....	.....	(X)	(X)	20.1	(X)	(X)	20.9
10441 0-	Crude silver ores mined.....	Mil.s.tons.	.5	(X)	.7	(X)	(X)	(X)
10441 2-	Crude ores and residues for shipment to smelters and mills.....	.....do.....	-	-	.2	.2	.3	.3
10442 01	Silver concentrates.....	1,000 s.tons	25.9	26.0	19.1	41.3	34.7	20.0
	Undistributed.....	.....	(X)	(X)	1.0	(X)	(X)	.6
IDAHO								
1044- --	Silver ores, total.....	.....	(X)	(X)	14.0	(X)	(X)	19.6

- Represents zero. (X) Not applicable.

**TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967**

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
<b>INDUSTRY 1044.--SILVER ORES</b>						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	5.9	(X)	4.1
100091	Ores and residues prepared in the silver industry:					
353011	Crude ores produced and prepared at same establishment.....	Mil. s. tons..	.4	(X)	.6	(X)
	Purchased machinery installed.....				(X)	.8
331201	Supplies used:					
970099	Steel mill shapes and forms.....	1,000 s. tons.	{ (X)	5.1	(NA)	.6
974000	All other supplies.....				(X)	2.5
	Undistributed supplies, minerals received for preparation, and purchased machinery installed .....		(X)	.8	(X)	.2

(X) Not applicable. (NA) Not available.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1044, these small establishments accounted for less than 3 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

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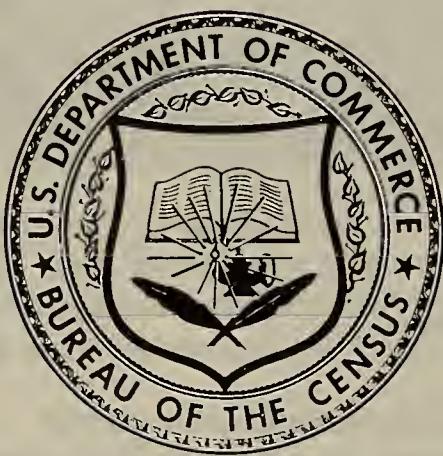
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PRELIMINARY REPORT

# 1972 CENSUS OF MINERAL INDUSTRIES

INDUSTRY SERIES

C72(P)-10C-1  
ed December 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

## Bauxite and Other Aluminum Ores, SIC 1051

The Bauxite and Other Aluminum Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing bauxite and other aluminum ores. Associated activities such as drying, calcining, activating, and sintering are also included.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Bauxite and Other Aluminum Ores Industry amounted to \$28 million, a decrease of 3 percent compared with 1967. Value added in mining amounted to \$24 million in 1972, an increase of 7 percent from 1967. Average employment in the industry showed a decrease of 17 percent from 1967 to a total of 0.5 thousand employees in 1972. For an explanation of the terms used in the tables, see appendix B at end of this report.

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## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1051, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

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specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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C72(P)-10C-2  
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## Ferroalloy Ores, Except Vanadium, SIC 1061

The Ferroalloy Ores, Except Vanadium, Industry includes establishments primarily engaged in mining, milling, or otherwise preparing ferroalloy ores, except vanadium. The mining of manganiferous ores, valued chiefly for their iron content, is classified in industry 1011. Titanium ore, sometimes used for ferroalloying but principally for other purposes, is classified in industry 1099. Mining of vanadium is classified in industry 1094.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as

classified under the 1972 edition of the SIC manual, were significantly changed in comparison with data classified by the previous system. The 1972 Industry 1061, Ferroalloy Ores, Except Vanadium, is an aggregate of former industries: 1062, Manganese Ores; 1064, Tungsten Ores; and 1069, Ferroalloy Ores, Except Vanadium, Not Elsewhere Classified.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Ferroalloy Ores, Except Vanadium, Industry amounted to \$160 million, an increase of 48 percent compared with 1967. Valued added in mining amounted to \$135 million in 1972, an increase of 84 percent from 1967. Average employment in the industry showed a decrease of 7.5 percent from 1967 to a total of 3.7 thousand employees in 1972. For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of sup- plies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1061.--FERROALLOY ORES, EXCEPT VANADIUM											
1972 .....	42	14	3.7	40.1	2.8	5.4	28.4	135.2	61.3	160.5	36.0
1967 .....	43	11	4.0	31.9	3.1	6.2	23.0	73.5	47.5	108.3	12.6
1963 .....	58	11	3.1	20.3	2.6	4.9	15.2	66.4	30.2	90.6	5.8
1958 .....	294	33	5.4	26.7	4.4	8.4	19.4	74.2	43.9	111.5	6.6
1954 .....	1,086	51	8.1	38.5	6.9	15.1	31.3	107.4	61.7	153.7	15.6

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Primary Products of the Industry: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product	Unit of measure	1972		1967	
			Production	Shipments including interplant transfers		Production
				Quantity	Value (million dollars)	
1061- --	FERROALLOY ORES, EXCEPT VANADIUM, TOTAL.....	.....	(X)	(X)	219.9	(X)
10611 2-	Manganese ores, crude.....	1,000's tons				
10612 03	Manganese concentrates, nodules and sinter (including washed material).....	...do....				
10611 41	Crude ferroalloy ores, n.e.c. (except molybdenum and vanadium).....	1,000's tons	(X)	(X)	40.5	143.3
10611 71	Crude molybdenum ores.....	...do....				
10612 19	Ferroalloy concentrates (except molybdenum and vanadium).....	...do....				
10612 31	Molybdenum concentrates.....	...do....	73.1	68.7	179.4	(X)

Note: The comparable 1967 data in this table were developed by conversion of old Standard Industrial Classification (SIC) product codes, and by combining data where necessary as follows with only those codes shown which are affected by the change:

1972 new SIC	1967 old SIC
10611 2-	{ 10621 21
10612 03	{ 10621 23
	10622 03
10611 41	10691 01
10611 71	10691 31
10612 19	10692 01
10612 31	10692 31

(X) Not applicable.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1061.--FERROALLOY ORES, EXCEPT VANADIUM					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	41.4	(X)	38.7
100097	Ores and concentrates received for preparation.....	Mil. s. tons..	(D)			
353011	Purchased machinery installed.....	.....	(X)			
970099	All other supplies.....	.....	(X)			
974000	Undistributed supplies, minerals received for preparation, and purchased machinery installed <sup>1</sup> .....	.....	(X)	1.8	-(X)	2.4

(X) Not applicable. (D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>This item represents the cost of supplies for establishments that did not report detailed supplies. This includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1061, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

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## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

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Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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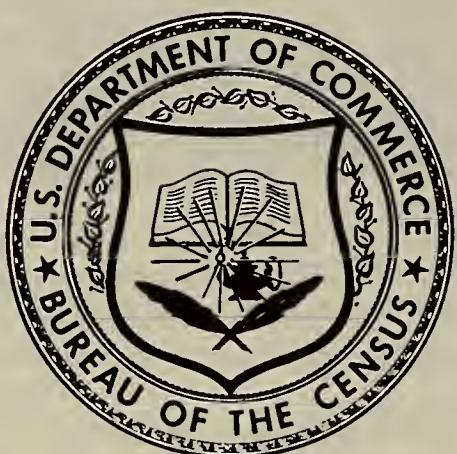
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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**

INDUSTRY SERIES

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sued January 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

## Metal Mining Services, SIC 1081

The Metal Mining Services Industry includes establishments primarily engaged in performing metal mining services for others on a contract, fee, or other similar basis, such as the removal of overburden, strip mining for metallic ores, prospect and test drilling, and mine exploration and development. Establishments which have complete responsibility for operating mines for others on a contract, fee, or similar basis are classified according to the product mined rather than as metal mining services. Establishments primarily performing hauling services are classified in transportation services.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edi-

tion of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Metal Mining Services Industry amounted to \$64 million, an increase of 31 percent compared with 1967. Value added in mining amounted to \$48 million in 1972, an increase of 42 percent from 1967. Average employment in the industry showed a decrease of 8 percent from 1967 to a total of 2.4 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1081.--METAL MINING SERVICES											
1972 .....	168	31	2.4	24.2	2.1	4.3	21.0	47.7	19.3	63.5	3.5
1967 .....	148	34	2.6	19.1	2.3	4.5	16.3	33.6	17.2	48.3	2.3
1963 .....	83	17	2.2	13.9	1.9	4.0	11.5	24.7	10.7	32.4	3.0
1958 .....	95	23	2.2	12.1	2.0	4.3	10.6	22.9	10.8	32.4	1.3
1954 .....	114	26	3.1	15.3	2.9	6.5	13.9	26.7	14.4	38.7	2.4

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Value of Receipts for Primary Services Performed: 1972 and 1967

1972 service code	Type of service and geographic area	Receipts for services (million dollars)	
		1972	1967 <sup>1</sup>
UNITED STATES			
1081- --	Metal Mining Services, total.....	63.5	45.7
10818 01	Exploration work, including geophysical and other exploratory surveying.....	3.6	7.2
10818 03	Prospect and test drilling.....	19.3	24.6
10818 05	Other drilling, including blasting.....	.3	
10818 07	Sinking mine shafts and driving mine tunnels.....	19.8	
10818 02	Stripping overburden.....	-	
10818 04	Mining minerals for others.....	8.8	
10818 09	Other metal mining services.....		13.9
10810 00	Metal mining services, n.s.k.....	11.7	-

<sup>1</sup>Represents zero. n.s.k. Not specified by kind.<sup>1</sup>Excludes receipts for services performed for metal mining establishments by companies not classified in the metal mining services industry.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Cost (million dollars)	
		1972	1967
INDUSTRY 1081.--METAL MINING SERVICES			
	Selected supplies and purchased machinery installed, total.....	16.6	14.8
353011	Purchased machinery installed.....	2.3	1.7
970099	All other supplies.....	10.8	10.2
974000	Undistributed supplies and purchased machinery installed <sup>1</sup> .....	3.5	2.9

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1081, these small establishments accounted for less than 3 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

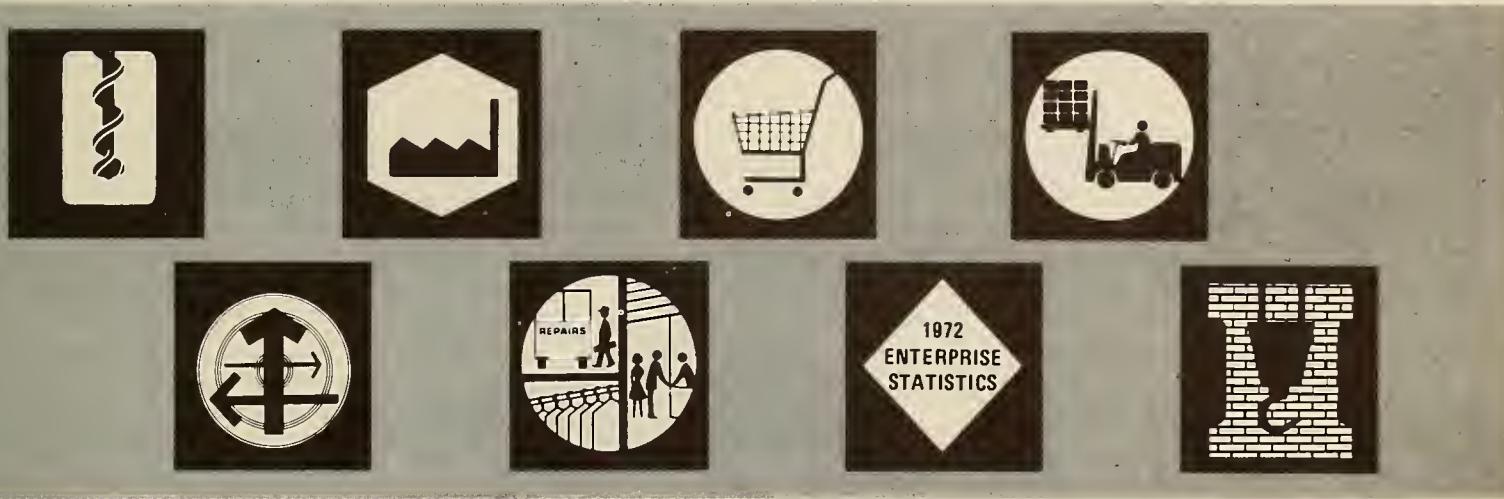
**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.



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## Mercury Ores; Metal Ores, N.E.C.; SIC 1092 and SIC 1099

The Mercury Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing mercury ores and mercury metal. This industry includes the production of metallic mercury by furnacing or retorting at the mine site.

The Metal Ores, N.E.C., Industry includes establishments primarily engaged in mining, milling, or otherwise preparing miscellaneous metal ores not elsewhere classified.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for the Mercury Ores Industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

The statistics for the Metal Ores, N.E.C., Industry, as classified under the 1972 edition of the SIC manual, were significantly changed in comparison with data classified by the previous system. The former industries, Titanium Ores (1093) and Metallic Minerals (Ores), N.E.C. (1099), were combined into the current Metal Ores, N.E.C., Industry.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Mercury Ores and the Metal Ores, N.E.C., Industries amounted to \$44 million, a decrease of 9 percent compared with 1967. Value added in mining amounted to \$30 million in 1972, a decrease of 8 percent from 1967. Average employment in the industry showed a decrease of 32 percent from 1967 to a total of 1.3 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1092.--MERCURY ORES AND INDUSTRY 1099.--METAL ORES, N.E.C.											
1972 .....	121	12	1.3	12.6	1.0	2.1	9.1	30.2	28.7	44.4	14.5
1967 .....	107	19	1.9	13.5	1.6	3.2	10.7	32.7	21.1	48.9	4.9
1963 .....	82	12	1.5	9.2	1.3	2.5	7.4	19.2	12.6	28.7	3.1
1958 <sup>1</sup> .....	156	18	1.9	8.7	1.5	2.8	6.4	21.7	11.1	28.8	4.0
1954 <sup>1</sup> .....	144	13	1.4	6.1	1.0	2.3	4.3	15.3	8.9	18.6	5.6

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

<sup>1</sup>Excludes data for Alaska. In 1958, 4 establishments and, in 1954, 7 establishments were reported in these industries.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of industry shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1092.--MERCURY ORES AND INDUSTRY 1099.--METAL ORES, N.E.C.													
United States, total.	121	12	1.3	12.6	1.0	2.1	9.1	30.2	28.7	44.4	14.5	1.9	32.7
Northeast and South Regions.....	26	8	.9	8.3	.7	1.4	6.2	19.1	21.1	27.2	13.1	(NA)	(NA)

(NA) Not available.

TABLE 3. Primary Products of the Industry: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product	Unit of measure	1972		1967			
			Production	Shipments including interplant transfers	Production	Shipments including interplant transfers		
				Quantity	Value (million dollars)	Quantity	Value (million dollars)	
1092- --	Mercury Ores.....	.....		(x)	(x)	(x)	(x)	10.9
1099- --	Metal Ores, N.E.C.....	.....		(x)	(x)	(x)	(x)	35.0
10992 01	Titanium concentrates (ilmenite and rutile).....	1,000 s. tons	673.8	721.9	16.9	944.7	893.2	18.7
10996 01	Miscellaneous metal concentrates.....	.....		(x)	(x)	(x)	(x)	16.3
10997 01	Platinum group metals.....	.....		(x)	20.9	(x)	(x)	16.3
10923 01	Mercury metal.....	1,000 s. flasks (76 lb.)		(x)	(x)	22.0	22.7	10.9
10920 98	Other mercury ores and metal ores, n.e.c.....	.....		(x)	25.3	(x)	(x)	-
10990 98								

- Represents zero. (X) Not applicable. n.e.c. Not elsewhere classified.

<sup>1</sup>Represents gross shipments of mercury metal.

<sup>2</sup>Mercury metal accounts for 20 to 40 percent of this figure.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1092.--MERCURY ORES AND INDUSTRY 1099.--METAL ORES, N.E.C.					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(x)	12.6	(x)	17.0
100097	Ores and concentrates received for treatment.....	1,000 s. tons.	153.3	14.2	(x)	( <sup>2</sup> )
353011	Purchased machinery installed.....	.....	(x)	2.0	(x)	( <sup>2</sup> )
331201 970099	Supplies used: Steel mill shapes and forms.....	1,000 s. tons.	(x)	1.0	1.3	.3
	All other supplies.....	.....	(x)	4.4	(x)	16.1
974000	Selected supplies, minerals received for preparation, and pur- chased machinery installed, n.s.k. <sup>3</sup> .....	.....	(x)	1.0	(x)	.5

(X) Not applicable.

<sup>1</sup>Includes zircon, rutile, ilmenite, and garnet purchased for milling and sizing.

<sup>2</sup>Included with "All other supplies."

<sup>3</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

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In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

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**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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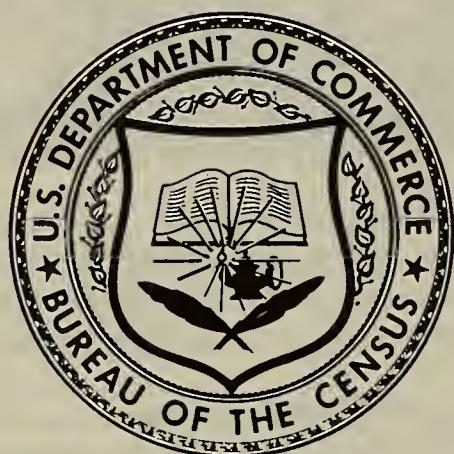
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## Uranium-Radium-Vanadium Ores, SIC 1094

The Uranium-Radium-Vanadium Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing uranium-radium-vanadium ores.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC

manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Uranium-Radium-Vanadium Ores Industry amounted to \$227 million, an increase of 1.3 percent compared with 1967. Value added in mining amounted to \$155 million in 1972, an increase of 9.1 percent from 1967. Average employment in the industry showed an increase of 9.3 percent from 1967 to a total of 5.9 thousand employees in 1972. For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1094.--URANIUM-RADIUM-VANADIUM ORES											
1972.....	145	34	5.9	58.2	4.6	9.8	42.9	155.0	114.7	227.1	42.4
1967.....	188	34	5.4	40.5	4.1	8.5	28.9	142.1	116.6	218.2	40.5
1963.....	335	51	6.7	45.2	5.1	11.3	34.2	190.6	151.7	326.4	15.9
1958 <sup>1</sup> .....	602	61	7.9	44.4	6.4	13.9	34.4	174.8	263.2	336.5	101.6
1954.....	637	26	3.5	14.6	2.9	6.2	11.9	( <sup>2</sup> )	25.4	( <sup>2</sup> )	14.8

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

<sup>1</sup>Excludes data for Alaska. In 1958, 1 establishment in Alaska was reported in the Uranium-Radium-Vanadium Ores Industry.<sup>2</sup>Not available. Figures for quantity of ores and concentrates, value of shipments, and cost of minerals received for treatment were not collected in the 1954 census. The uranium chapter of the 1959 Minerals Yearbook (United States Department of the Interior, Bureau of Mines) shows uranium ore production in 1954 as 914 thousand short tons. On the basis of these and other figures in this 1959 Minerals Yearbook, it is estimated that the value of shipments and receipts of the Uranium-Radium-Vanadium Ores Industry in 1954 was between \$70 and \$90 million, that value added in mining was between \$20 and \$40 million, and that cost of minerals received for treatment was between \$30 and \$50 million.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of industry shipments and receipts (million dollars)	Capital expenditures, new (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1094.--URANIUM-RADIUM-VANADIUM DRES													
United States, total.	145	34	5.9	58.2	4.6	9.8	42.9	155.0	114.7	227.1	42.4	5.4	142.1
Wyoming.....	23	12	1.7	17.1	1.4	3.1	13.1	48.2	36.6	63.9	21.0	(D)	(D)
New Mexico.....	13	5	2.2	21.8	1.8	3.7	17.1	60.4	29.1	76.2	13.2	(D)	(D)

(D) Withheld to avoid disclosing figures for individual companies.

TABLE 3. Primary Products of the Industry: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972			1967		
			Production	Shipments including interplant transfers		Production	Shipments including interplant transfers	
				Quantity	Value (million dollars)		Quantity	Value (million dollars)
UNITED STATES								
1094- --	Uranium-Vanadium Ores, Total.....	.....	(X)	(X)	227.1	(X)	(X)	216.4
10941 --	Crude uranium-vanadium ores.....	Mil.s.tons	7.2	1.2	23.4	5.5	1.7	29.2
10941 01	Crude ores shipped.....	...do.....	(X)	1.2	23.4	(X)	1.7	29.2
10941 03	Crude ore mined from underground operations.....	...do.....	2.9	(X)	(X)	4.2	(X)	(X)
10941 05	Crude ore mined from open pit operations.....	...do.....	4.2	(X)	(X)	1.3	(X)	(X)
10942 01	Uranium concentrates.....	1,000 s. tons.....	} 23.7	23.8	200.1	130.6	130.7	1187.1
10942 02	Vanadium concentrates.....	...do.....						
10940 00	Uranium-vanadium ores, n.s.k.....	.....	(X)	(X)	3.0	-	-	-

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<sup>1</sup>Concentrates include slurry and low-grade concentrates shipped to mills for further upgrading.

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1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1094.--URANIUM-RADIIUM-VANADIUM ORES						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	82.2	(X)	82.8
	Ores and other uranium-vanadium bearing materials for preparation:					
100097	Crude ores and concentrates received for preparation.....	Mil. s. tons..	1.3	28.7	1.6	38.6
100097	Crude ores and concentrates produced and prepared at same establishment.....	...do.....	5.9	(X)	3.9	(X)
3S3011	Purchased machinery installed.....	.....	(X)	12.4	(X)	15.7
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	Million lb...	2.3	.6	6.7	1.1
289214	Ammonium nitrate.....	...do.....	6.8	.3		
331201	Blasting accessories.....	.....	(X)	.6	(X)	.3
331201	Steel mill shapes and forms.....	1,000 s. tons.	(X)	5.0	10.5	3.5
970099	All other supplies.....	.....	(X)	35.5	(X)	25.2
974000	Undistributed supplies, minerals received for preparation and purchased machinery installed <sup>1</sup> .....	.....	(X)	2.1	(X)	1.3

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**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

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**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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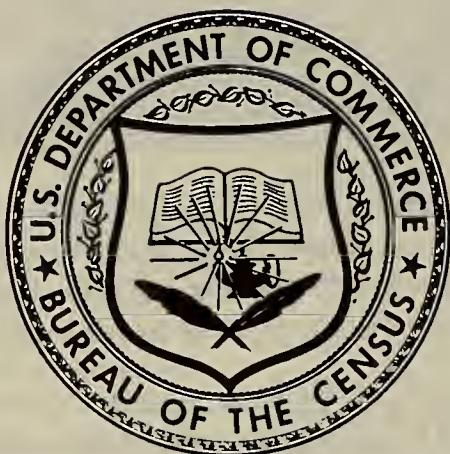
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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**

EDITION 2 49 PH '74

INDUSTRY SERIES

C72(P)-11A-1  
Issued January 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

## **Anthracite, SIC 1111**

The Anthracite Industry represents establishments primarily engaged in producing anthracite (hard coal) or in developing anthracite mines. All establishments in the United States that are classified in this industry are in Pennsylvania. This industry includes underground mines, stripping or culm bank operations by owners or lessees, dredge operations, and coal preparation plants (breakers, washeries, and screening plants) whether or not operated in conjunction with the mines served.

Establishments primarily engaged in the production of fuel briquets and packaged fuel are classified in Major Group 29, and in the production of manufactured gas from coal, in industry 4925.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon

the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Anthracite Industry amounted to \$128 million, a decrease of 13 percent compared with 1967. Value added in mining amounted to \$67 million in 1972, a decrease of 10 percent from 1967. Average employment in the industry showed a decrease of 41 percent from 1967 to a total of 3.8 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1111.--ANTHRACITE											
1972 .....	211	40	3.8	31.5	3.3	6.7	26.9	67.3	66.2	127.5	6.0
1967 .....	371	58	6.4	36.6	5.5	10.3	30.9	74.7	76.4	146.0	5.0
1963 .....	1,026	85	10.7	53.0	9.3	17.8	44.9	110.5	123.1	221.0	12.7
1958 .....	1,163	117	19.7	79.5	17.3	26.4	67.4	142.2	160.9	290.3	12.8
1954 .....	1,291	186	32.8	118.1	28.8	42.1	98.7	167.1	206.3	365.5	7.9

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Not applicable to this industry. All operations are located in Pennsylvania)

Table 3. Primary Products of the Industry: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

Product code	Product	Unit of measure	1972		1967	
			Quantity	Value	Quantity	Value
			(million dollars)		(million dollars)	
1111- --	ANTHRACITE, TOTAL.....	.....	(X)	125.6	(X)	144.7
	Net anthracite shipments <sup>1</sup> .....	Million s. tons.	7.3	87.3	12.4	100.0
11111 --	Raw anthracite shipped (including interplant transfers).....	...do.....	7.5	37.6	12.7	46.4
11111 01	For use without preparation.....	...do.....	.8	4.5	.9	1.7
11111 03	For preparation at other establishments.....	...do.....	6.7	33.1	11.9	44.7
11112 --	Prepared anthracite shipped.....	...do.....	6.5	82.8	11.5	98.3
11112 01	Mechanically cleaned (breaker, washery, and dredge product).....	...do.....	6.5	82.8	11.5	98.3
11112 03	Mechanically crushed, screened, or sized only.....	...do.....				
11110 00	Anthracite, n.s.k.....	.....	(X)	5.2	-	-

- Represents zero. (X) Not applicable. n.s.k. Not specified by kind.

<sup>1</sup>Represents raw coal for use without preparation plus prepared coal.

**TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967**

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1111.--ANTHRACITE						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	52.0	(X)	64.3
11119-	Raw anthracite for preparation, total.....	1,000 s. tons.	12,546.9	(X)	18,242.1	(X)
	Received from other establishments.....	...do.....	6,985.6	29.4	11,477.6	43.7
353011	Mined and prepared at same establishment.....	...do.....	5,561.3	(X)	6,764.5	(X)
	Purchased machinery installed.....	.....	(X)	1.8	(X)	2.2
Supplies used:						
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	1,894.7	.4	1,727.4	.4
289212	Ammonium nitrate.....	...do.....	22,578.5	1.3	30,011.0	1.4
289214	Blasting accessories.....	.....	(X)	.2	(X)	.2
331201	Steel mill shapes and forms.....	.....	(X)	2.3	.....	.8
345240	Roof bolts.....	.....	(X)	(Z)	.....	
241100	Round or hewn woods products and stumppage.....	.....	(X)	.1	(X)	.3
970099	All other supplies used.....	.....	(X)	11.6	(X)	9.7
974000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. <sup>1</sup> .....	.....	(X)	4.9	(X)	5.6

(X) Not applicable. (Z) Less than half of the unit of measurement shown.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1111, these small establishments also accounted for less than 2 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

*(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)*

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

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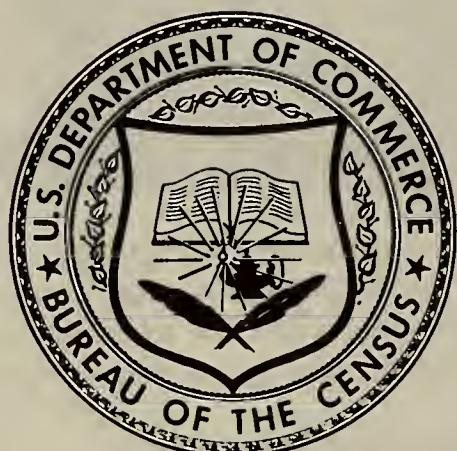
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PRELIMINARY REPORT

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*FEB 11 1974*  
INDUSTRY SERIES

IC72(P)-11A-2  
Issued January 1974

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## Anthracite Mining Services, SIC 1112

The Anthracite Mining Services Industry includes establishments primarily engaged in performing for others, on a contract, fee, or other basis, anthracite mining services, such as the removal of overburden, strip mining for fresh or culm bank anthracite, drilling, mine tunneling, shaft sinking, and pumping or draining mines.

Establishments primarily engaged in operating mines for others on a contract, fee, or similar basis are classified according to the product mined rather than as anthracite mining services.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classi-

fication (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of receipts for primary services and miscellaneous receipts of establishments classified in the Anthracite Mining Services Industry amounted to \$7 million, a decrease of 28 percent compared with 1967. Value added in mining amounted to \$5 million in 1972, a decrease of 27 percent from 1967. Average employment in the industry showed a decrease of 38 percent from 1967 to a total of 0.5 thousand employees in 1972. For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
								(million dollars)	(million dollars)	(million dollars)	(million dollars)
INDUSTRY 1112. --ANTHRACITE MINING SERVICES											
1972.....	17	9	0.5	3.4	0.5	0.9	3.1	5.4	2.5	7.1	0.8
1967.....	32	11	.8	4.5	.7	1.3	4.1	7.4	3.9	9.9	1.4
1963.....	43	17	1.1	5.8	1.0	1.8	5.0	10.0	8.0	15.5	2.5
1958.....	85	42	3.1	13.9	2.8	4.5	12.0	22.3	16.3	34.8	3.8
1954.....	145	59	4.7	17.9	4.2	6.2	15.3	29.7	15.8	42.9	2.6

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Not applicable to this industry. All operations are located in Pennsylvania.)

TABLE 3. Quantity and Value of Receipts for Primary Services Performed: 1972 and 1967

	Type of service	Unit of measure	1972		1967	
			Raw coal mined and culm-bank material loaded	Receipts for serv- ices performed (million dollars)	Raw coal mined and culm-bank material loaded	Receipts for serv- ices performed (million dollars)
1112---	ANTHRACITE MINING SERVICES, TOTAL.....	Mil. s. tons	1.5	7.1	3.2	9.7
1112802	Stripping overburden.....	.....	(X)	1.8	(X)	
1112804	Strip mining anthracite not for your own account.....	Mil. s. tons..	.8	2.9	2.2	7.9
1112806	Recovering culm bank material not for your own account.....	.....do.....	.7	1.2	1.0	1.6
1112809	All other services.....	.....	(X)	1.2	(X)	.3

(X) Not applicable.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1112.--ANTHRACITE MINING SERVICES						
	Selected supplies and purchased machinery installed, total.....	.....	(X)	1.9	(X)	3.0
353911	Purchased machinery installed.....	.....	(X)	.7	(NA)	.8
2892--	Supplies used:					
331201	Explosive material and blasting accessories.....	.....	(NA)	.2	(NA)	.1
970099	Steel mill shapes and forms.....	.....	(X)	(Z)	(NA)	.6
974000	All other supplies.....	.....	(X)	.7		
	Selected supplies and purchased machinery installed, n.s.k <sup>1</sup> .....	.....	(X)	.3	(X)	1.5

(X) Not applicable. (NA) Not available. (Z) Less than \$50 thousand.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1112, these small establishments accounted for less than 2 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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Issued April 1974

**Bituminous Coal and Lignite, SIC 1211**

The Bituminous Coal and Lignite Industry includes establishments primarily engaged in producing bituminous coal or lignite or in developing bituminous coal or lignite mines. This industry includes underground mining, auger mining, strip mining, culm bank mining, and coal cleaning, crushing, screening, and sizing plants, whether or not operated in conjunction with the mines served.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were significantly changed in comparison with data classified by the previous system. The current industry is the sum of former industries 1211, Bituminous Coal, and 1212, Lignite.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Bituminous Coal and Lignite Industry amounted to \$5,240 million, an increase of 80 percent compared with 1967. Value added in mining amounted to \$3,586 million in 1972, an increase of 80 percent from 1967. Average employment in the industry showed an increase of 23 percent from 1967 to a total of 151 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1211.--BITUMINOUS COAL AND LIGNITE											
1972 .....	3,192	1,072	151.1	1,706.5	128.6	250.2	1,403.8	3,586.0	2,328.7	5,239.9	674.8
1967 .....	3,966	1,036	123.0	915.8	107.6	209.6	767.3	1,987.5	1,258.9	2,915.4	331.0
1963 .....	6,174	1,150	132.5	755.8	117.4	215.3	644.5	1,589.9	998.0	2,372.4	215.4
1958 .....	6,783	1,354	186.4	907.8	162.3	265.6	755.6	1,600.6	994.3	2,409.3	185.7
1954 .....	6,713	1,447	217.8	871.4	198.6	324.0	761.9	1,411.7	763.2	2,057.2	117.6

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1211.--BITUMINOUS COAL AND LIGNITE													
United States, total.	3,192	1,072	151.1	1,706.5	128.6	250.2	1,403.8	3,586.0	2,328.7	5,239.9	674.8	123.0	1,987.5
Northeast Region.....	550	162	25.6	293.0	21.6	44.0	237.7	558.6	420.4	885.1	93.9	22.9	327.7
Pennsylvania.....	546	161	25.5	291.8	21.6	44.0	237.7	558.6	420.4	885.1	93.9	22.8	327.7
Ohio.....	213	81	10.7	119.6	9.0	18.4	98.1	245.6	(D)	345.6	(D)	8.3	135.0
West North Central Div... North Dakota.....	55	21	2.3	23.4	1.1	2.5	13.8	37.8	(D)	51.6	(D)	2.0	25.0
South Atlantic Division.. West Virginia.....	1,075	392	60.5	662.0	51.9	95.0	546.5	1,316.8	840.3	1,926.9	230.1	49.6	748.1
664	292	47.8		530.6	41.0	74.7	438.4	1,010.9	603.3	1,440.6	173.6	39.9	615.5
East South Central Div... Kentucky.....	1,023	281	31.9	346.3	28.4	56.0	297.4	830.5	543.0	1,229.3	144.2	25.4	408.8
797	213	24.4		263.3	21.6	42.5	223.6	617.8	424.9	932.5	110.2	18.8	291.8
West South Central Div... Texas.....	30	16	1.1	12.7	.9	1.8	10.2	25.4	13.1	34.1	4.4	(2)	(NA)
10	4	.4		4.7	.3	.7	3.3	6.3	3.2	8.8	.7	.1	6.9

(NA) Not available. (D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>For 1967, the range for all employees in North Dakota was 250 to 499 employees.<sup>2</sup>For 1967, the range for all employees in the West South Central Division was 300 to 400 employees.

## TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

Geographic area	Net coal shipments <sup>1,2</sup>		Raw coal shipped (including interplant transfers)		Prepared coal shipped (including interplant transfers)				Value of coal, not specified by kind <sup>2</sup>				
	Quantity	Value	Quantity	Value	Mechanically cleaned		Mechanically crushed, screened, or sized only						
					Quantity	Value	Quantity	Value					
(million short tons) (million dollars) (million dollars)													
INDUSTRY 1211.--BITUMINOUS COAL AND LIGNITE	1972												
United States, total.....	555.4	4,407.6	149.5	981.7	318.0	2,988.3	186.0	1,082.5	130.1				
Middle Atlantic Division (Pennsylvania).....	71.7	697.1	35.5	261.0	48.9	521.8	9.6	77.9	11.9				
East North Central Division.....	137.4	842.2	18.6	92.9	89.1	569.5	39.1	225.8	7.2				
Ohio.....	47.1	305.8	14.0	71.0	15.2	117.7	24.3	148.4	5.3				
Indiana.....	25.2	147.3	1.2	7.3	19.6	117.3	5.4	28.8	.9				
Illinois.....	65.1	389.1	3.4	14.7	54.4	334.5	9.5	48.6	.9				
West North Central Division.....	13.7	49.9	2.5	6.0	3.0	19.3	8.5	26.6	—				
South Atlantic Division.....	153.2	1,596.4	53.2	365.4	108.3	1,251.9	31.5	241.8	33.8				
Maryland.....	1.2	7.8	.9	6.0	—	—	.4	2.6	.3				
Virginia.....	29.2	327.9	20.4	130.2	19.1	248.0	7.7	61.7	15.7				
West Virginia.....	122.8	1,260.7	31.9	229.2	89.1	1,004.0	23.4	177.5	17.9				
East South Central Division.....	128.5	987.0	35.4	236.5	59.4	547.3	58.3	364.3	74.8				
Kentucky.....	101.0	720.4	30.8	202.1	41.7	358.7	50.7	303.2	62.6				
Tennessee.....	6.4	52.3	3.1	22.6	1.9	16.6	3.2	24.9	4.3				
Alabama.....	21.0	214.3	1.6	11.8	15.7	172.0	4.5	36.2	7.8				
West South Central Division.....	7.2	32.7	(NA)	(NA)	<sup>3</sup> 7.0	<sup>3</sup> 30.5	( <sup>3</sup> )	( <sup>3</sup> )	1.0				
Oklahoma.....	2.6	18.9	—	—	.7	6.6	2.0	12.4	.9				
Texas.....	4.0	8.7	—	—	—	—	4.0	8.7	.1				
Mountain Division.....	40.3	183.8	4.0	17.4	5.8	59.2	32.1	116.8	1.4				
Montana.....	8.2	16.9	(D)	(D)	—	—	(D)	(D)	.3				
Wyoming.....	10.7	43.6	(D)	(D)	(D)	(D)	9.2	39.5	(Z)				
Colorado.....	5.5	41.2	.7	4.4	(D)	(D)	4.3	29.5	.1				
New Mexico.....	8.0	29.1	—	(Z)	(D)	(D)	(D)	(D)	.2				
Utah.....	5.0	44.9	(D)	(D)	3.9	38.7	1.1	6.3	.8				
Pacific Division.....	3.4	18.5	(Z)	.1	<sup>3</sup> 3.4	<sup>3</sup> 18.5	( <sup>3</sup> )	( <sup>3</sup> )	—				
United States, total.....	<sup>4</sup> 551.9	<sup>4</sup> 2,594.5	<sup>4</sup> 161.5	<sup>4</sup> 600.0	346.5	1,806.2	<sup>4</sup> 124.4	<sup>4</sup> 491.5					
Middle Atlantic Division (Pennsylvania).....	83.2	435.0	35.6	138.0	52.9	314.9	16.2	70.8					
East North Central Division.....	(D)	(D)	25.0	79.3	87.9	356.3	29.7	104.3					
Ohio.....	46.5	185.1	21.1	68.6	17.4	79.5	17.1	61.9					
Indiana.....	19.5	75.5	1.0	3.8	16.5	64.3	2.0	7.4					
Illinois.....	(D)	(D)	2.9	6.9	54.0	212.6	10.7	35.0					
West North Central Division <sup>5</sup> .....	5.9	24.8	.3	1.3	<sup>3</sup> 5.5	<sup>3</sup> 23.5	( <sup>3</sup> )	( <sup>3</sup> )					
South Atlantic Division.....	188.5	985.8	55.8	213.3	135.7	764.2	25.5	117.7					
Maryland.....	35.8	176.9	{ .6	2.5	—	—	.7	3.2					
Virginia.....	152.8	808.8	{ 15.2	54.7	17.7	102.9	7.4	34.2					
West Virginia.....	22.8	143.0	40.0	156.1	118.1	661.2	17.4	80.2					
East South Central Division.....	117.8	523.3	40.7	144.5	60.3	305.2	32.5	129.8					
Kentucky.....	94.9	380.2	33.4	115.2	49.2	217.3	26.2	94.8					
Tennessee.....	{ 22.8	143.0	7.3	29.3	11.1	87.9	{ 3.5	15.2					
Alabama.....							2.8	19.8					
West South Central Division <sup>5</sup> .....	1.1	6.6	.2	.9	<sup>3</sup> .9	<sup>3</sup> 5.4	( <sup>3</sup> )	( <sup>3</sup> )					
Arkansas.....	.2	1.6	{ .2	.9	<sup>3</sup> .9	<sup>3</sup> 5.4	( <sup>3</sup> )	( <sup>3</sup> )					
Oklahoma.....	.8	5.0											
Mountain Division <sup>5</sup> .....	(D)	(D)	3.4	21.7	5.7	45.6	10.8	37.8					
Montana <sup>5</sup> .....	(D)	(D)	.1	.3	—	—	(D)	(D)					
Wyoming.....	3.7	11.4	(D)	(D)	(D)	(D)	3.4	10.3					
Colorado.....	5.7	32.3	(D)	(D)	(D)	(D)	3.2	14.7					
New Mexico.....	(D)	(D)	.1	.2	(D)	(D)	(D)	(D)					
Utah.....	(D)	(D)	(D)	(D)	3.4	30.8	(D)	(D)					
Pacific Division.....	.7	5.3	(Z)	(Z)	<sup>3</sup> .7	<sup>3</sup> 5.2	( <sup>3</sup> )	( <sup>3</sup> )					

- Represents zero. (NA) Not available. (D) Withheld to avoid disclosing figures for individual companies. (Z) Less than half of the unit of measure shown.

<sup>1</sup>Represents gross shipments less coal received for preparation.

<sup>2</sup>For 1972, coal, not specified by kind, is not included in net coal shipments.

<sup>3</sup>Figures for coal mechanically crushed, screened, or sized, only, are included with those for mechanically cleaned.

<sup>4</sup>Includes gross lignite shipments.

<sup>5</sup>Excludes figures for lignite shipments.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1211.--BITUMINOUS COAL AND LIGNITE						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	1,893.9	(X)	1,047.2
121191	Raw coal for preparation:					
	For mechanical cleaning.....	Mil. s. tons..	414.3	(X)	440.2	(X)
	Received from other establishments.....	....do.....	68.8	452.5	61.1	241.1
121193	Mined and prepared at the same establishment.....	....do.....	345.5	(X)	379.1	(X)
	For mechanical crushing, screening, or sizing only.....	....do.....	192.0	(X)	126.5	(X)
	Received from other establishments.....	....do.....	14.6	83.4	18.5	62.1
	Mined and prepared at the same establishments.....	....do.....	177.4	(X)	101.5	(X)
353011	Purchased machinery installed.....	.....	(X)	512.6	(X)	262.2
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	Million lb..	90.7	17.6	(NA)	17.0
289212	Ammonium nitrate.....	....do.....	874.7	30.4	335.1	13.6
289214	Blasting accessories.....	.....	(X)	11.0	(X)	9.2
331201	Steel mill shapes and forms.....	1,000 s. tons.	(X)	54.8	(NA)	36.4
345240	Roof bolts.....	....do.....	(X)	71.8	163.5	39.4
241100	Round or hewn woods products and stumps.....	.....	(X)	37.5	(X)	20.5
970099	All other supplies used.....	.....	(X)	566.3	(X)	279.4
974000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. <sup>1</sup> .....	.....	(X)	56.0	(X)	66.3

(X) Not applicable. (NA) Not available.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data, and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1211, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

**U.S. DEPARTMENT OF COMMERCE**  
**Social and Economic Statistics Administration**  
BUREAU OF THE CENSUS  
Washington, D.C. 20233

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OFFICIAL BUSINESS





PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**

INDUSTRY SERIES

IC72(P)-12A.2

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

Issued April 1974

**Bituminous and Lignite Mining Services, SIC 1213**

The Bituminous and Lignite Mining Services Industry includes establishments primarily engaged in performing for others on a contract, fee, or other basis bituminous coal and lignite mining services, such as the removal of overburden, strip and auger mining, drilling, shaft sinking, and mine tunneling.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Bituminous and Lignite Mining Services Industry amounted to \$90 million, an increase of 205 percent compared with 1967. Value added in mining amounted to \$65 million in 1972, an increase of 201 percent from 1967. Average employment in the industry showed an increase of 114 percent from 1967 to a total of 3 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of sup- plies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1213.--BITUMINOUS AND LIGNITE MINING SERVICES											
1972 .....	181	43	3.0	29.8	2.7	5.1	25.3	65.4	33.9	89.5	9.9
1967 .....	115	18	1.4	10.4	1.3	2.8	9.5	21.7	10.9	29.3	3.3
1963 .....	131	17	1.3	7.0	1.2	2.3	6.4	16.8	10.1	24.0	2.9
1958 .....	157	21	1.5	7.3	1.4	2.5	6.5	15.1	9.3	21.6	2.8
1954 .....	152	20	1.4	6.1	1.3	2.5	5.5	12.5	7.5	17.6	2.4

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expendi- tures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man- hours (millions)	Wages (million dollars)					(1,000)	(million dollars)
INDUSTRY 1213.--BITUMINOUS AND LIGNITE MINING SERVICES													
United States, total..	181	43	3.0	29.8	2.7	5.1	25.3	65.4	33.9	89.5	9.9	1.4	21.7
Middle Atlantic Div. (Pennsylvania).....	36	9	.5	4.7	.5	.9	3.8	10.3	4.0	13.0	1.3	.3	4.5
North Central Region.....	30	3	.4	4.3	.4	.7	3.8	7.3	3.3	9.3	1.3	.1	2.3
South Atlantic Div.....	65	19	1.0	9.1	.9	1.7	7.7	20.6	10.2	27.2	3.6	.8	12.3
West Virginia.....	40	10	.6	5.7	.6	1.0	4.8	10.1	5.5	13.8	1.9	.7	9.3
East South Central Div....	35	7	.5	4.7	.4	.8	3.7	14.1	6.8	19.3	1.7	.1	.7
West South Central Div. and West Region.....	15	5	.5	6.9	.5	.9	6.3	13.1	9.5	20.6	2.0	.1	1.8

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Service and geographic area	Unit of measure	1972		1967	
			Raw coal mined (quantity)	Receipts for services (million dollars)	Raw coal mined (quantity)	Receipts for services (million dollars)
1213- --	BITUMINOUS COAL AND LIGNITE MINING SERVICES					
	United States, total.....	1,000 s. tons	14,518.6	89.3	4,970.8	30.1
12138 01	Exploration work, including geophysical and other exploratory surveying.....	.....	(X)	.8	(X)	(1)
12138 03	Drilling:					
12138 05	Prospect and test drilling.....	.....	(X)	2.4	(X)	3.4
12138 07	Other drilling, including blasting.....	.....	(X)	.8	(X)	9.6
12138 02	Sinking mine shafts and driving mine tunnels.....	.....	(X)	20.8	(X)	1.4
12138 04	Stripping overburden.....	.....	(X)	6.1	(X)	1.4
12138 06	Strip mining coal not for own account.....	1,000 s. tons	13,396.5	32.8	3,721.0	9.8
12138 09	Auger mining coal not for own account.....	...do.....	1,122.1	4.3	1,249.8	3.0
12130 00	Other bituminous coal and lignite mining services.....	.....	(X)	21.3	{ (X)	12.9
	Bituminous coal and lignite mining services, n.s.k. <sup>2</sup> .....	.....			(X)	-
12138 04	Middle Atlantic Division (Pennsylvania).....	1,000 s. tons	546.2	12.8	1,425.8	6.1
12138 06	Strip mining coal not for own account.....	...do.....	283.7	1.2	1,190.4	3.0
	Auger mining coal not for own account.....	...do.....	262.6	.7	235.4	.5
	All other services, including bituminous coal and lignite mining services, n.s.k.....	.....	(X)	10.9	(X)	2.5
	North Central Region.....	1,000 s. tons	1,327.0	10.2	556.0	2.9
12138 04	South Atlantic Division.....	...do.....	3,199.3	26.9	1,930.0	16.9
12138 06	Strip mining coal not for own account.....	...do.....	2,870.5	13.5	1,465.5	5.3
	Auger mining coal not for own account.....	...do.....	328.7	1.4	464.5	1.4
	All other services, including bituminous coal and lignite mining services, n.s.k.....	.....	(X)	12.0	(X)	10.3
	East South Central Division.....	1,000 s. tons	(D)	19.3	(D)	1.0
	West South Central Division and West Region.....	...do.....	(D)	21.0	(D)	3.1'

- Represents zero. (X) Not applicable. (D) Withheld to avoid disclosure of figures for individual companies.

<sup>1</sup>The value of receipts for exploration work is included in the value of other bituminous coal and lignite mining services.<sup>2</sup>This item represents the total value of receipts for establishments that did not report detailed receipts. Also included are estimates for companies with less than five employees which were not mailed report forms.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1213.--BITUMINOUS AND LIGNITE MINING SERVICES					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	29.0	(X)	9.1
353011	Purchased machinery installed.....	.....	(X)	6.9	(X)	2.1
289211	Supplies used:					
289212	Explosive materials, except ammonium nitrate.....	1,000 lb.....	1,153.3	.3	976.1	.2
289214	Ammonium nitrate.....	...do.....	21,871.1	.9	8,332.4	.4
331201	Blasting accessories.....	.....	(X)	.2	(X)	.1
970099	Steel mill shapes and forms.....	1,000 s. tons.	(X)	.5	2.9	.6
974000	All other supplies used.....	.....	(X)	6.6	(X)	4.7
	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. <sup>1</sup> .....	.....	(X)	13.6	(X)	1.1

(X) Not applicable.

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1213, these small establishments accounted for less than 2 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**  
INDUSTRY SERIES

C72(P)-13A-1  
Issued April 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**Crude Petroleum and Natural Gas—All Companies, SIC 1311**

The Crude Petroleum and Natural Gas Industry includes establishments primarily engaged in operating oil and gas field properties. Such activities include exploration for crude petroleum and natural gas; drilling, completing, and equipping wells; operation of separators, emulsion breakers, desilting equipment; and all other activities incident to making oil and gas marketable up to the point of shipment from the producing property. This industry also includes the production of oil through the mining and extraction of oil from oil shale and oil sands.

Establishments primarily engaged in petroleum refining and in the production of lubricating oils and greases are classified in SIC Major Group 29, Petroleum Refining and Related Industries.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon

the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Crude Petroleum and Natural Gas Industry amounted to \$15,930 million, an increase of 36 percent compared with 1967. Value added in mining amounted to \$14,666 million in 1972, an increase of 34 percent from 1967. Average employment in the industry showed a decrease of 11 percent from 1967 to a total of 112 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments <sup>1</sup>		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1311.--CRUDE PETROLEUM AND NATURAL GAS											
1972.....	7,770	840	112.4	1,310.2	52.3	104.6	511.3	14,666.1	4,233.9	15,929.7	3,020.3
1967.....	8,796	1,034	126.4	1,049.1	66.2	130.0	440.3	10,965.0	3,308.3	11,731.7	2,541.6
1963.....	14,378	954	145.2	1,016.4	83.4	166.3	494.9	9,016.4	3,087.3	9,893.8	2,209.9
1958 <sup>2</sup> .....	12,010	1,093	180.1	1,043.1	102.5	201.0	497.9	7,339.9	2,989.5	8,385.9	1,943.5
1954 <sup>2</sup> .....	11,508	1,042	172.5	835.7	109.8	216.6	460.0	6,129.2	2,839.3	7,070.1	1,898.5

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

<sup>1</sup>Figures for 1972, 1967, 1963, and earlier years are not entirely comparable. Prior to 1963, each report (establishment) represented all operations of one company in an entire State. For 1967 and 1963, companies filed separate establishment reports by districts for Louisiana, Texas, and New Mexico. For 1967, companies also filed separate establishment reports for offshore operations by State and for districts in California. For 1972, companies filed establishment reports for all operations within a State and separate establishment reports for offshore activities adjacent to a State. In addition, in 1972 and 1967, single-unit establishments without paid employees were excluded from the census.

<sup>2</sup>Excludes Alaska; for 1958, figures for 17 establishments; for 1954, figures for 5 establishments.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1311.--CRUDE PETROLEUM AND NATURAL GAS													
United States, total..	7,770	840	112.4	1,310.2	52.3	104.6	511.3	14,666.1	4,283.9	15,929.7	3,020.3	126.4	10,965.0
West South Central Div....	3,834	467	72.9	867.1	30.7	61.9	305.1	10,946.4	2,922.5	11,845.1	2,023.8	80.0	7,912.1
Louisiana.....	464	106	19.2	241.7	9.6	19.9	107.9	4,640.8	1,411.3	4,953.5	1,098.6	18.4	3,223.0
Texas.....	2,327	270	42.6	506.6	15.9	31.8	151.3	5,427.7	1,216.9	5,897.7	747.0	45.0	3,863.1
Pacific Division.....	403	76	11.9	161.1	5.9	11.9	71.2	1,285.8	427.4	1,398.1	315.1	14.6	1,058.3
California.....	358	67	11.0	141.5	5.6	11.3	63.6	974.6	319.3	1,100.7	193.2	14.1	906.3

## TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	Shipments including interplant transfers					
			1972		1967			
			Quantity	Value (million dollars)	Quantity	Value (million dollars)		
INDUSTRY 1311.--CRUDE PETROLEUM AND NATURAL GAS								
UNITED STATES								
1311- --	Crude petroleum and natural gas, total.....	.....	(X)	15,842.8	(X)	11,740.2		
13111 03	Crude petroleum, including lease condensate.....	Mil. barrels...	3,192.2	10,735.9	3,057.4	8,841.7		
13115 32	Natural gas.....	Billion ft <sup>3</sup> ...	20,634.9	4,074.2	17,185.1	2,898.5		
13110 00	Crude petroleum and natural gas, n.s.k. <sup>1</sup> .....	.....	(X)	1,032.7	(X)	(1)		
WEST SOUTH CENTRAL DIVISION								
1311- --	Crude petroleum and natural gas, total.....	.....	(X)	11,811.6	(X)	8,441.2		
13111 03	Crude petroleum, including lease condensate.....	Mil. barrels...	2,249.5	7,873.3	2,044.2	6,179.0		
13115 32	Natural gas.....	Billion ft <sup>3</sup> ...	17,261.1	3,371.6	13,819.3	2,262.2		
13110 00	Crude petroleum and natural gas, n.s.k. <sup>1</sup> .....	.....	(X)	566.7	(X)	(1)		
Louisiana								
1311- --	Crude petroleum and natural gas, total.....	.....	(X)	4,916.7	(X)	3,364.6		
13111 03	Crude petroleum, including lease condensate.....	Mil. barrels...	855.7	3,044.5	748.1	2,311.7		
13115 32	Natural gas.....	Billion ft <sup>3</sup> ...	7,918.8	1,787.5	5,471.0	1,052.9		
13110 00	Crude petroleum and natural gas, n.s.k. <sup>1</sup> .....	.....	(X)	84.7	(X)	(1)		
Texas								
1311- --	Crude petroleum and natural gas, total.....	.....	(X)	5,898.2	(X)	4,184.2		
13111 03	Crude petroleum, including lease condensate.....	Mil. barrels...	1,215.4	4,226.2	1,069.1	3,200.2		
13115 32	Natural gas.....	Billion ft <sup>3</sup> ...	7,689.4	1,289.7	6,818.9	984.0		
13110 00	Crude petroleum and natural gas, n.s.k. <sup>1</sup> .....	.....	(X)	382.3	(X)	(1)		
PACIFIC DIVISION								
1311- --	Crude petroleum and natural gas, total.....	.....	(X)	1,395.8	(X)	1,087.5		
13111 03	Crude petroleum, including lease condensate.....	Mil. barrels...	420.4	1,166.5	379.0	891.9		
13115 32	Natural gas.....	Billion ft <sup>3</sup> ...	547.4	169.0	595.1	195.6		
13110 00	Crude petroleum and natural gas, n.s.k. <sup>1</sup> .....	.....	(X)	60.3	(X)	(1)		
California								
1311- --	Crude petroleum and natural gas, total.....	.....	(X)	1,103.9	(X)	(NA)		
13111 03	Crude petroleum, including lease condensate.....	Mil. barrels...	331.4	893.4	(NA)	(NA)		
13115 32	Natural gas.....	Billion ft <sup>3</sup> ...	420.7	150.2	(NA)	(NA)		
13110 00	Crude petroleum and natural gas, n.s.k. <sup>1</sup> .....	.....	(X)	60.3	(X)	(NA)		
Alaska								
1311- --	Crude petroleum and natural gas, total.....	.....	(X)	292.1	(X)	(NA)		
13111 03	Crude petroleum, including lease condensate.....	Mil. barrels...	89.0	273.2	(NA)	(NA)		
13115 32	Natural gas.....	Billion ft <sup>3</sup> ...	126.7	18.9	(NA)	(NA)		
13110 00	Crude petroleum and natural gas, n.s.k. <sup>1</sup> .....	.....	(X)	-	(X)	(NA)		

- Represents zero. (X) Not applicable. (NA) Not available.

<sup>1</sup>This item represents the value of shipments for establishments that did not report detailed product data as well as estimates of the value of shipments for establishments which were not mailed report forms. In 1967, these data were allocated among the oil and gas products.

TABLE 4. Selected Supplies, Purchased Machinery Installed, and Purchased Fuels Used:  
1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1311.--CRUDE PETROLEUM AND NATURAL GAS						
	Selected supplies and purchased machinery installed, total.....	.....	(X)	1,984.3	(X)	1,633.4
131155	Gas purchased for gas lift and repressuring.....	Million ft <sup>3</sup> ...	115,548.0	20.8	89,210.0	17.0
353011	Purchased machinery installed.....	.....	(X)	590.4	(X)	490.0
	Supplies used:					
331201	Steel mill shapes and forms.....	1,000 s. tons.	(X)	446.2	1,796.0	477.4
970099	All other supplies.....	.....	(X)	765.9	(X)	560.3
974000	Selected supplies and purchased machinery installed, n.s.k. <sup>1</sup> .....	.....	(X)	161.0	(X)	88.7
	Purchased fuels used, total.....	.....	(X)	68.4	(X)	48.7
	Purchased fuel:					
131157	Gas--natural, manufactured, and mixed.....	Million ft <sup>3</sup> ...	72,146.0	20.7	(NA)	14.2
291111	Gasoline.....	1,000 gallons.	42,027.0	13.9	(NA)	12.4
291140	Fuel oil.....	1,000 barrels.	(NA)	18.0	3,015.3	13.5
960019	Other fuels, liquified petroleum gas, coal, coke, wood, and other.....	.....	(X) {	15.8	(X) {	3.7
977000	Undistributed purchased fuels <sup>1</sup> .....	.....	(X) }		(X) }	5.0

X. Not applicable. (NA) Not available.

<sup>1</sup>This item represents the total cost of supplies or fuels for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

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In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

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## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

**U.S. DEPARTMENT OF COMMERCE**  
**Social and Economic Statistics Administration**  
BUREAU OF THE CENSUS  
Washington, D.C. 20233

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COM-202



OFFICIAL BUSINESS



1972

CENSUS OF MINERAL INDUSTRIES

13A-2 and 13A-3

not published





PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**  
INDUSTRY SERIES

C72(P)-13B  
ued April 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

## Natural Gas Liquids, SIC 1321

The Natural Gas Liquids Industry includes establishments primarily engaged in producing liquid hydrocarbons from oil and gas field gases.

Establishments recovering liquefied petroleum gases incident to petroleum refining or to the manufacturing of chemicals are classified in Major Groups 28 or 29. Establishments recovering helium from natural gas are classified in industry 2813. This report does not include the recovery of natural gas liquids as a secondary activity in dehydration, pressure maintenance, and boosting plants.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, pub-

lished by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Natural Gas Liquids Industry amounted to \$5,055 million, an increase of 36 percent compared with 1967. Value added in mining amounted to \$1,014 million in 1972, an increase of 12 percent from 1967. Average employment in the industry showed a decrease of 14 percent from 1967 to a total of 10.7 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1321.--NATURAL GAS LIQUIDS											
1972 .....	678	191	10.7	116.3	8.9	18.2	95.6	1,013.9	4,145.3	5,055.4	103.8
1967 .....	684	216	12.4	99.5	10.5	21.0	82.1	905.0	3,016.9	3,707.6	214.4
1963 .....	652	245	13.9	96.6	11.9	24.5	80.7	762.1	2,152.6	2,800.8	113.9
1958 .....	593	290	16.5	96.3	13.4	26.9	75.7	587.6	1,132.4	1,625.1	94.9
1954 .....	562	287	17.3	85.1	13.6	27.9	64.0	(NA)	209.1	1,582.9	110.0

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries in table 1 of the chapter devoted to this industry.

(NA) Not available.

<sup>1</sup>Represents value of net shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1321.--NATURAL GAS LIQUIDS													
United States, total.	678	191	10.7	116.3	8.9	18.2	95.6	1,013.9	4,145.3	5,055.4	103.8	12.4	905.0
Northeast and North Central Regions.....	34	5	.5	5.3	.3	.9	4.3	65.1	212.3	271.4	5.9	.4	57.5
South Region.....	516	154	8.4	90.8	7.0	14.2	73.9	827.3	3,502.8	4,256.0	74.1	9.8	752.2
West South Central Div.	495	148	8.1	87.3	6.8	13.8	71.7	804.5	3,299.6	4,035.3	69.5	9.4	718.8
Louisiana.....	106	33	1.7	18.6	1.4	2.9	15.2	247.2	1,583.3	1,820.8	9.7	1.4	152.4
Texas.....	302	94	5.1	55.4	4.5	9.1	47.6	464.8	1,506.0	1,918.5	52.3	6.3	474.9
West Region.....	128	32	1.8	20.2	1.6	3.1	17.4	121.5	430.2	528.0	23.8	2.2	95.3
Mountain Division.....	79	23	1.2	12.8	1.0	2.1	10.9	93.4	321.9	392.3	23.0	1.4	56.7
Wyoming.....	27	6	.3	3.6	.3	.6	3.2	20.1	57.4	70.8	6.8	.3	9.0
Colorado.....	11	1	.1	.6	(Z)	.1	.5	4.2	25.5	24.5	5.2	.1	3.2
New Mexico.....	33	15	.7	8.0	.6	1.3	6.6	64.4	229.2	284.1	9.5	.9	41.3
Pacific Division.....	49	9	.6	7.5	.5	1.0	6.5	28.2	108.3	135.6	.8	.8	38.6

(Z) Less than half of the unit of measurement shown.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967			
			Production	Shipments including interplant transfers	Production	Shipments including interplant transfers		
				Quantity	(million dollars)	Quantity	(million dollars)	
UNITED STATES								
1321- --	Natural gas liquids and residue gas.....	.....	(X)	(X)	5,077.9	(X)	(X)	3,727.2
13212 01	Natural gas liquids <sup>1</sup> .....	Mil. bbl.	741.3	744.8	1,670.8	582.1	581.2	1,295.6
13213 01	Residue gas shipped <sup>2</sup> .....	8il.cu.ft.	(X)	16,721.3	3,381.9	(X)	14,395.8	2,431.6
13210 98	Natural gas liquids and residue gas, n.s.k.....	.....	(X)	(X)	25.2	(X)	(X)	-
West South Central Division								
1321- --	Natural gas liquids and residue gas.....	.....	(X)	(X)	4,034.7	(X)	(X)	2,744.3
13212 01	Natural gas liquids <sup>1</sup> .....	Mil. bbl.	585.2	590.3	1,321.7	446.2	445.2	992.5
13213 01	Residue gas shipped <sup>2</sup> .....	8il.cu.ft.	(X)	13,463.7	2,693.1	(X)	10,935.9	1,751.8
13210 98	Natural gas liquids and residue gas, n.s.k.....	.....	(X)	(X)	19.9	(X)	(X)	-
Louisiana:								
1321- --	Natural gas liquids and residue gas.....	.....	(X)	(X)	1,820.8	(X)	(X)	1,049.6
13212 01	Natural gas liquids <sup>1</sup> .....	Mil. bbl.	176.6	179.9	419.8	98.7	97.8	247.9
13213 01	Residue gas shipped <sup>2</sup> .....	8il.cu.ft.	(X)	6,271.6	1,396.0	(X)	4,126.6	801.7
13210 98	Natural gas liquids and residue gas, n.s.k.....	.....	(X)	(X)	5.0	(X)	(X)	-
Texas:								
1321- --	Natural gas liquids and residue gas.....	.....	(X)	(X)	1,917.1	(X)	(X)	1,474.1
13212 01	Natural gas liquids <sup>1</sup> .....	Mil. bbl.	363.3	364.8	796.1	306.5	306.0	649.1
13213 01	Residue gas shipped <sup>2</sup> .....	8il.cu.ft.	(X)	6,208.5	1,108.1	(X)	5,841.3	825.0
13210 98	Natural gas liquids and residue gas, n.s.k.....	.....	(X)	(X)	12.9	(X)	(X)	-
WEST REGION								
1321- --	Natural gas liquids and residue gas.....	.....	(X)	(X)	528.0	(X)	(X)	479.0
13212 01	Natural gas liquids <sup>1</sup> .....	Mil. bbl.	84.3	82.7	185.3	76.9	76.7	172.4
13213 01	Residue gas shipped <sup>2</sup> .....	8il.cu.ft.	(X)	1,634.0	337.8	(X)	1,660.9	306.6
13210 98	Natural gas liquids and residue gas, n.s.k.....	.....	(X)	(X)	4.9	(X)	(X)	-
Mountain Division								
1321- --	Natural gas liquids and residue gas.....	.....	(X)	(X)	392.3	(X)	(X)	292.2
13212 01	Natural gas liquids <sup>1</sup> .....	Mil. bbl.	69.7	68.7	140.9	54.5	54.2	109.9
13213 01	Residue gas shipped <sup>2</sup> .....	8il.cu.ft.	(X)	1,386.6	250.4	(X)	1,250.7	182.3
13210 98	Natural gas liquids and residue gas, n.s.k.....	.....	(X)	(X)	1.0	(X)	(X)	-
Wyoming:								
1321- --	Natural gas liquids and residue gas.....	.....	(X)	(X)	70.8	(X)	(X)	47.4
13212 01	Natural gas liquids <sup>1</sup> .....	Mil. bbl.	11.3	11.2	23.6	7.3	7.7	14.2
13213 01	Residue gas shipped <sup>2</sup> .....	8il.cu.ft.	(X)	260.0	46.7	(X)	209.9	33.2
13210 98	Natural gas liquids and residue gas, n.s.k.....	.....	(X)	(X)	.5	(X)	(X)	-
Colorado:								
13212 01	Natural gas liquids <sup>1</sup> .....	Mil. bbl.	3.0	3.0	6.9	3.1	3.0	7.0
New Mexico:								
1321- --	Natural gas liquids and residue gas.....	.....	(X)	(X)	284.2	(X)	(X)	213.9
13212 01	Natural gas liquids <sup>1</sup> .....	Mil. bbl.	52.8	51.9	105.3	41.4	40.9	83.0
13213 01	Residue gas shipped <sup>2</sup> .....	8il.cu.ft.	(X)	997.0	178.4	(X)	907.0	130.9
13210 98	Natural gas liquids and residue gas, n.s.k.....	.....	(X)	(X)	.5	(X)	(X)	-
Pacific Division								
1321- --	Natural gas liquids and residue gas.....	.....	(X)	(X)	135.6	(X)	(X)	186.9
13212 01	Natural gas liquids <sup>1</sup> .....	Mil. bbl.	14.6	14.7	44.3	22.4	22.4	62.6
13213 01	Residue gas shipped <sup>2</sup> .....	8il.cu.ft.	(X)	247.4	90.4	(X)	410.3	124.3
13210 98	Natural gas liquids and residue gas, n.s.k.....	.....	(X)	(X)	.9	(X)	(X)	-

- Represents zero. (X) Not applicable. n.s.k. Not specified by kind.

<sup>1</sup>Represents gross production of natural gasoline, plant condensate, and liquefied petroleum gases, including drip from lines, isopentane, and ethane. Also includes finished gasoline, kerosene, distillate, and residual oils produced at natural gas liquids plants.<sup>2</sup>Represents all residue gas used by the reporting company at other company operations, gas returned to supplying producer, and gas delivered to other companies. All gas volumes are adjusted to a pressure base of 14.73 pounds absolute at 60°F.

TABLE 4. Selected Supplies, Natural Gas Received for Processing, Natural Gas Liquids Received for Further Processing, and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1321.--NATURAL GAS LIQUIDS						
131151	Selected supplies, natural gas received for processing, and purchased machinery installed, total.....	.....	(X)	4,073.8	(X)	2,946.9
	Natural gas processed <sup>1</sup> .....	Bil. cu. ft...	18,292.0	3,614.7	16,002.2	2,569.3
132120	Liquids processed:					
131113	Natural gas liquids received for further processing.....	Million bbl...	131.4	263.9	73.5	143.2
	Crude petroleum, including condensate, received for processing.....	...do.....	2.9	9.9	10.6	30.2
353011	Purchased machinery installed.....	.....	(X)	65.6	(X)	104.0
	Supplies used:					
331201	Steel mill shapes and forms.....	1,000 s. tons.	(X)	19.9	(NA)	48.7
970099	All other supplies.....	.....	(X)	45.4	(X)	45.8
974000	Undistributed supplies, natural gas received for processing, purchased machinery installed <sup>2</sup> .....	.....	(X)	54.4	(X)	5.7

(X) Not applicable. (NA) Not available.

<sup>1</sup>Gas volumes adjusted to a pressure base of 14.73 pounds absolute at 60°F.

<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1321, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

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**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

**U.S. DEPARTMENT OF COMMERCE**  
**Social and Economic Statistics Administration**  
BUREAU OF THE CENSUS  
Washington, D.C. 20233

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OFFICIAL BUSINESS





PRELIMINARY REPORT

1972 CENSUS OF  
**MINERAL INDUSTRIES**  
INDUSTRY SERIES

C72(P)-13C-1  
Issued April 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**Drilling Oil and Gas Wells, SIC 1381**

The Drilling Oil and Gas Wells Industry includes establishments primarily engaged in drilling wells for oil or gas for others on a contract, fee, or other basis.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC

manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Drilling Oil and Gas Wells Industry amounted to \$1,276 million, an increase of 43 percent compared with 1967. Value added in mining amounted to \$912 million in 1972, an increase of 45 percent from 1967. Average employment in the industry showed an increase of 14 percent from 1967 to a total of 49 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1381.--DRILLING OIL AND GAS WELLS											
1972 .....	1,928	578	48.8	439.1	40.4	85.2	365.3	911.6	591.2	1,276.3	226.5
1967 .....	2,347	581	42.9	294.7	38.7	81.4	255.2	627.4	406.7	893.7	140.4
1963 .....	2,836	746	55.4	318.2	50.3	106.3	281.1	653.3	474.0	979.3	148.0
1958 <sup>1</sup> .....	3,064	820	59.4	289.2	52.3	109.5	239.3	587.4	419.5	904.9	102.0
1954 <sup>1</sup> .....	2,869	878	68.0	304.3	62.1	133.2	264.8	624.0	502.2	972.7	153.5

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

<sup>1</sup>Excludes figures for Alaska. Two establishments were reported in 1958 and one establishment in 1954.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)					(1,000)	(million dollars)
INDUSTRY 1381.--DRILLING OIL AND GAS WELLS													
Total.....	1,928	578	48.8	439.1	40.4	85.2	365.3	911.6	591.2	1,276.3	226.5	42.9	627.4
Offshore.....	37	33	5.1	54.7	4.5	10.0	46.8	169.2	110.5	198.5	81.2	5.7	151.5
Northeast Region.....	91	5	.6	5.2	.5	1.1	4.5	14.3	7.2	19.6	1.9	.6	9.2
East North Central Division, total.....	247	32	2.6	21.5	2.4	4.4	18.7	37.0	26.5	58.5	5.0	2.8	31.6
Ohio.....	118	12	1.3	10.3	1.2	2.2	9.2	18.1	13.6	29.4	2.3	1.2	12.7
Illinois.....	62	10	.6	4.3	.5	.9	3.8	7.9	4.1	11.0	1.0	1.0	10.5
Michigan.....	31	8	.6	5.4	.5	1.0	4.6	8.7	7.5	14.7	1.5	.4	5.7
West North Central Division, total.....	131	26	1.6	14.0	1.5	3.3	12.3	27.8	18.7	42.4	4.0	1.8	22.3
North Dakota.....	8	5	.3	2.5	.2	.5	2.2	6.7	2.6	8.1	1.2	.2	3.4
Kansas.....	95	19	1.2	10.0	1.0	2.4	8.7	17.6	13.5	28.6	2.6	1.4	16.7
South Atlantic Division...	110	19	1.1	9.5	.9	2.1	8.6	20.6	14.7	30.0	5.4	.8	8.3
East South Central Div....	144	33	2.2	17.2	2.0	3.6	15.9	39.7	35.5	62.3	12.8	1.5	20.8
West South Central Division, total.....	887	353	30.4	288.3	25.7	55.9	231.0	602.1	396.6	825.7	172.8	27.7	409.1
Offshore.....	37	33	5.1	54.7	4.5	10.0	46.8	169.2	110.5	198.5	81.2	4.4	113.2
Louisiana, total.....	187	109	12.4	125.9	10.3	23.2	100.0	279.4	190.0	370.5	98.9	10.2	184.3
Offshore-Louisiana.....	29	27	4.6	47.8	4.0	8.9	40.9	130.3	80.8	156.0	55.1	3.9	100.7
Texas, total.....	502	179	13.7	126.9	11.8	25.4	102.7	260.0	164.3	360.3	64.0	13.1	173.8
Offshore-Texas.....	8	6	.5	6.9	.5	1.1	5.9	38.9	29.7	42.5	26.1	.5	12.5
Mountain Division, total...	239	86	6.2	60.2	5.5	11.2	53.2	123.6	75.2	179.1	19.7	3.9	53.1
Wyoming.....	61	23	1.7	18.1	1.5	3.2	16.5	35.1	19.0	50.1	4.1	1.1	13.7
Colorado.....	48	15	1.1	11.8	.9	2.0	9.3	20.0	14.6	32.2	2.3	.5	6.7
New Mexico.....	66	27	1.9	15.8	1.7	3.3	14.0	32.5	22.3	50.9	3.8	1.4	18.9
Utah.....	23	10	.9	9.2	.9	1.6	8.7	23.7	13.1	28.9	7.9	.2	3.5
Pacific Division, total...	79	24	2.1	25.2	1.7	3.6	20.9	46.8	16.8	58.9	4.8	3.9	72.9
California.....	62	13	1.8	20.3	1.4	2.8	16.3	34.3	13.9	44.2	4.0	3.0	47.5

<sup>1</sup>Statistics represent Middle Atlantic Division only for 1967.

TABLE 3. Primary Services of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Value of shipments")

1972 product code	Product	1972		1967		
		Footage (1,000 feet)	Receipts for services (million dollars)	Footage (1,000 feet)	Receipts for services (million dollars)	
<b>INDUSTRY 1381.--DRILLING OIL AND GAS WELLS</b>						
<b>UNITED STATES</b>						
1381- --	Drilling oil and gas wells, total.....	(X)	1,281.4	(X)	873.1	
13818 01	Drilling oil, gas, dry, and service wells.....	125,510	995.4	125,096	698.5	
13818 02	Drilling in, spudding in, and tailing in.....	6,141	11.9	(NA)	17.7	
13818 04	Reworking wells.....	(X)	152.7	(NA)	69.0	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	121.4	(X)	87.9	
<b>UNITED STATES, OFFSHORE</b>						
1381- --	Drilling oil and gas wells, total.....	(X)	212.8	(X)	177.7	
13818 01	Drilling oil, gas, dry, and service wells.....	9,853	180.5	12,145	165.1	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	{ 32.3 }	(NA) { }	12.6	
13818 04	Reworking wells.....	(NA)		(NA)		
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	-	(X)	-	
<b>MIDDLE ATLANTIC DIVISION</b>						
1381- --	Drilling oil and gas wells, total.....	(X)	18.7	(X)	14.0	
13818 01	Drilling oil, gas, dry, and service wells.....	2,018	12.8	3,636	11.8	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	( <sup>2</sup> )	(NA)	( <sup>2</sup> )	
13818 04	Reworking wells.....	(X)	.2	(NA)	.1	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	<sup>2</sup> 5.7	(X)	<sup>2</sup> 2.1	
<b>EAST NORTH CENTRAL DIVISION</b>						
1381- --	Drilling oil and gas wells, total.....	(X)	56.2	(X)	41.1	
13818 01	Drilling oil, gas, dry, and service wells.....	8,761	43.2	7,492	29.6	
13818 02	Drilling in, spudding in, and tailing in.....	562	1.0	(NA)	1.1	
13818 04	Reworking wells.....	(X)	1.3	(NA)	.8	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	10.7	(X)	9.6	
<b>Ohio</b>						
13818 --	Drilling oil and gas wells, total.....	(X)	28.3	(X)	18.0	
13818 01	Drilling oil, gas, dry, and service wells.....	5,361	23.2	3,219	12.6	
13818 02	Drilling in, spudding in, and tailing in.....	235	.4	(NA)	( <sup>2</sup> )	
13818 04	Reworking wells.....	(X)	.5	(NA)	.2	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	4.2	(X)	<sup>2</sup> 5.2	
<b>WEST NORTH CENTRAL DIVISION</b>						
1381- --	Drilling oil and gas wells, total.....	(X)	41.1	(X)	33.7	
13818 01	Drilling oil, gas, dry, and service wells.....	7,288	29.0	8,024	25.2	
13818 02	Drilling in, spudding in, and tailing in.....	476	.7	(NA)	1.0	
13818 04	Reworking wells.....	(X)	3.2	(NA)	2.3	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	8.2	(X)	5.2	
<b>Kansas</b>						
1381- --	Drilling oil, and gas wells.....	(X)	28.0	(X)	24.3	
13818 01	Drilling oil, gas, dry, and service wells.....	5,369	19.9	6,225	17.9	
<b>SOUTH ATLANTIC DIVISION</b>						
1381- --	Drilling oil and gas wells, total.....	(X)	27.8	(X)	10.5	
13818 01	Drilling oil, gas, dry, and service wells.....	3,063	22.4	1,457	6.1	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	( <sup>2</sup> )	(NA)	( <sup>2</sup> )	
13818 04	Reworking wells.....	(X)	1.3	(NA)	.2	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	<sup>2</sup> 4.1	(X)	<sup>2</sup> 4.3	
<b>EAST SOUTH CENTRAL DIVISION</b>						
1381- --	Drilling oil and gas wells, total.....	(X)	62.2	(X)	34.9	
13818 01	Drilling oil, gas, dry, and service wells.....	5,998	52.3	6,238	26.9	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	( <sup>2</sup> )	(NA)	( <sup>2</sup> )	
13818 04	Reworking wells.....	(X)	3.9	(NA)	2.8	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	<sup>2</sup> 6.0	(X)	<sup>2</sup> 5.1	
<b>Mississippi</b>						
1381- --	Drilling oil and gas wells, total.....	(X)	45.2	(X)	25.0	
13818 01	Drilling oil, gas, dry, and service wells.....	4,376	39.6	4,904	21.1	
13818 02	Drilling in, spudding in, and tailing in.....	-	-	(NA)	( <sup>2</sup> )	
13818 04	Reworking wells.....	(X)	3.3	(NA)	2.4	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	2.3	(X)	<sup>2</sup> 1.5	
<b>WEST SOUTH CENTRAL DIVISION</b>						
1381- --	Drilling oil and gas wells, total.....	(X)	842.2	(X)	557.1	
13818 01	Drilling oil, gas, dry, and service wells.....	72,533	634.3	74,199	443.4	
13818 02	Drilling in, spudding in, and tailing in.....	2,541	6.4	(NA)	12.2	
13818 04	Reworking wells.....	(X)	128.1	(NA)	57.2	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	73.4	(X)	44.3	
<b>WEST SOUTH CENTRAL, OFFSHORE</b>						
13818 01	Drilling oil, gas, dry, and service wells.....	(D)	(D)	8,860	116.4	
<b>Arkansas</b>						
13818 01	Drilling oil, gas, dry, and service wells.....	1,101	7.2	1,131	4.3	

See footnotes at end of table.

TABLE 3. Primary Services of the Industry, by Geographic Areas: 1972 and 1967—Continued

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Value of shipments")

1972 product code	Product	1972		1967		
		Footage (1,000 feet)	Receipts for services (million dollars)	Footage (1,000 feet)	Receipts for services (million dollars)	
INDUSTRY 1381.—DRILLING OIL AND GAS WELLS—Continued						
WEST SOUTH CENTRAL DIVISION—Continued						
Louisiana						
1381- --	Drilling oil and gas wells, total.....	(X)	381.5	(X)	234.5	
13818 01	Drilling oil, gas, dry, and service wells.....	24,893	297.5	23,003	189.9	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	( <sup>2</sup> )	(NA)	( <sup>2</sup> )	
13818 04	Reworking wells.....	(X)	66.4	(NA)	28.0	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	<sup>2</sup> 17.6	(X)	<sup>2</sup> 16.6	
Louisiana, Offshore						
13818 01	Drilling oil, gas, dry, and service wells.....	7,441	145.6	7,883	101.3	
Oklahoma						
13818 01	Drilling oil, gas, dry, and service wells.....	12,804	81.0	13,365	58.7	
Texas						
1381- --	Drilling oil and gas wells, total.....	(X)	357.7	(X)	247.3	
13818 01	Drilling oil, gas, dry, and service wells.....	33,735	248.6	36,700	190.5	
13818 02	Drilling in, spudding in, and tailing in.....	1,574	5.4	(NA)	3.6	
13818 04	Reworking wells.....	(X)	58.7	(NA)	23.9	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	45.0	(X)	29.3	
Texas, Offshore						
13818 01	Drilling oil, gas, dry, and service wells.....	(D)	(D)	977	15.1	
MOUNTAIN DIVISION						
1381- --	Drilling oil and gas wells, total.....	(X)	175.9	(X)	87.8	
13818 01	Drilling oil, gas, dry, and service wells.....	21,792	152.8	14,393	72.6	
13818 02	Drilling in, spudding in, and tailing in.....	2,422	3.0	(NA)	.2	
13818 04	Reworking wells.....	(X)	11.6	(NA)	3.6	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	8.5	(X)	11.4	
Montana						
1381- --	Drilling oil and gas wells, total.....	(X)	14.5	(X)	14.7	
13818 01	Drilling oil, gas, dry, and service wells.....	1,750	11.2	2,390	11.9	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	( <sup>2</sup> )	—	—	
13818 04	Reworking wells.....	(X)	( <sup>2</sup> )	(NA)	( <sup>2</sup> )	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	<sup>2</sup> 3.3	(X)	<sup>2</sup> 2.8	
Wyoming						
1381- --	Drilling oil and gas wells, total.....	(X)	49.8	(X)	25.4	
13818 01	Drilling oil, gas, dry, and service wells.....	6,594	44.1	4,055	21.5	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	( <sup>2</sup> )	(NA)	( <sup>2</sup> )	
13818 04	Reworking wells.....	(X)	3.4	(NA)	1.0	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	<sup>2</sup> 2.3	(X)	<sup>2</sup> 2.9	
Colorado						
1381- --	Drilling oil and gas wells, total.....	(X)	32.1	(X)	9.5	
13818 01	Drilling oil, gas, dry, and service wells.....	5,279	30.1	2,435	8.0	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	( <sup>2</sup> )	(NA)	—	
13818 04	Reworking wells.....	(X)	( <sup>2</sup> )	(NA)	( <sup>2</sup> )	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	<sup>2</sup> 2.0	(X)	<sup>2</sup> 1.5	
New Mexico						
1381- --	Drilling oil and gas wells, total.....	(X)	49.8	(X)	30.4	
13818 01	Drilling oil, gas, dry, and service wells.....	5,983	40.4	4,691	24.9	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	( <sup>2</sup> )	(NA)	(Z)	
13818 04	Reworking wells.....	(X)	4.2	(NA)	2.0	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	<sup>2</sup> 5.2	(X)	3.5	
PACIFIC DIVISION						
1381- --	Drilling oil and gas wells, total.....	(X)	56.9	(X)	94.0	
13818 01	Drilling oil, gas, dry, and service wells.....	4,426	48.6	9,657	82.8	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	( <sup>2</sup> )	(NA)	( <sup>2</sup> )	
13818 04	Reworking wells.....	(X)	3.0	(NA)	2.1	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	<sup>2</sup> 5.3	(X)	<sup>2</sup> 9.1	
California						
1381- --	Drilling oil and gas wells, total.....	(X)	43.8	(X)	59.8	
13818 01	Drilling oil, gas, dry, and service wells.....	3,891	36.3	7,601	50.0	
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	( <sup>2</sup> )	(NA)	( <sup>2</sup> )	
13818 04	Reworking wells.....	(X)	2.6	(NA)	2.1	
13818 98	Drilling oil and gas wells, n.s.k. <sup>1</sup> .....	(X)	<sup>2</sup> 4.9	(X)	<sup>2</sup> 7.7	
California, Offshore						
13818 01	Drilling oil, gas, dry, and service wells.....	-	-	1,544	20.2	

- Represents zero. (X) Not applicable. (NA) Not available. (D) Withheld to avoid disclosing figures for individual companies. (Z) Less than \$50 thousand. n.s.k. Not specified by kind.

<sup>1</sup>Includes estimates for establishments which did not report specified services.<sup>2</sup>Figures were combined with "Drilling oil and gas wells, n.s.k." to avoid disclosing individual company data.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Cost	
		1972	1967
INDUSTRY 1381.--DRILLING OIL AND GAS WELLS			
	Selected supplies and purchased machinery installed, total.....	474.7	322.3
331201	Steel mill shapes and forms.....	47.9	26.5
353011	Purchased machinery installed.....	191.1	87.1
970099	All other supplies used.....	171.4	169.0
974000	Selected supplies and purchased machinery installed, n.s.k. <sup>1</sup> .....	64.3	39.7

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.



## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1381, these small establishments accounted for less than 2 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.



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PRELIMINARY REPORT

1972 CENSUS OF  
**MINERAL INDUSTRIES**  
INDUSTRY SERIES

C72(P)-13C-2  
Issued March 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**Oil and Gas Exploration Services, SIC 1382**

The Oil and Gas Exploration Services Industry includes establishments primarily engaged in performing geophysical, geological, and other exploration services for oil and gas on a contract, fee, or similar basis.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC

manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Oil and Gas Exploration Services Industry amounted to \$203 million, an increase of 34 percent compared with 1967. Value added in mining amounted to \$158 million in 1972, an increase of 25 percent from 1967. Average employment in the industry showed an increase of 17 percent from 1967 to a total of 9.8 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1382.--OIL AND GAS EXPLORATION SERVICES											
1972.....	1731	192	9.8	88.6	7.4	17.1	60.9	158.0	64.2	203.4	18.8
1967.....	1636	199	8.4	53.1	6.6	15.9	39.4	126.4	45.5	152.0	20.0
1963.....	373	68	8.7	47.8	7.2	16.2	36.9	90.0	41.6	119.8	11.7
1958 <sup>2</sup> .....	347	76	9.6	43.6	7.6	16.7	31.1	64.4	29.9	87.2	7.1
1954.....	330	(NA)	11.5	49.5	10.0	24.0	40.8	81.3	40.3	114.8	6.7

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

(NA) Not available.

<sup>1</sup>Establishment counts for 1972 and 1967 are not entirely comparable to prior years. For 1972, companies were required to file separate reports for each State in which they had operations. For 1967, separate reports were also required for each district in California, Louisiana, New Mexico, and Texas in which they had operations during 1967. Prior to 1967, a company was required to file only a single report for all oil and gas field services performed in the United States.

<sup>2</sup>Excludes figures for Alaska for 1 establishment.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1382.--OIL AND GAS EXPLORATION SERVICES													
United States, total.....	731	92	9.8	88.6	7.4	17.1	60.9	158.0	64.2	203.4	18.8	8.4	126.4
Middle Atlantic Division.....	24	2	.1	1.3	.1	.2	1.1	2.6	1.6	4.0	.3	(NA)	(NA)
East North Central Div...	39	3	.3	2.2	.2	.6	1.9	5.8	2.7	7.7	.8	.1	1.5
Michigan.....	10	2	.1	.8	.1	.2	.7	1.6	1.0	2.3	.3	(NA)	(NA)
West North Central Div...	39	2	.2	1.8	.2	.4	1.4	3.8	1.9	5.3	.5	.1	1.9
West South Central Div...	334	51	6.5	60.5	4.9	10.3	38.6	94.2	37.8	121.3	10.3	5.6	86.7
Louisiana.....	64	14	1.0	9.4	1.0	1.6	5.6	16.3	6.5	21.3	1.6	1.9	30.5
Texas.....	206	27	4.6	43.0	3.3	7.5	28.5	64.0	24.5	81.0	7.5	3.1	48.8
Mountain Division.....	139	7	.8	6.7	.7	1.6	5.5	15.8	7.5	21.3	2.0	.9	13.5
Wyoming.....	35	3	.3	2.3	.2	.6	2.1	5.4	2.3	7.3	.4	.3	3.1
Colorado.....	49	2	.2	1.7	.1	.3	1.0	2.8	1.5	3.8	.5	.2	3.7
Pacific Division.....	61	8	1.0	9.5	.7	1.6	6.1	20.0	5.8	23.2	2.3	1.0	15.7

(NA) Not available.

## TABLE 3. Primary Services of the Industry, by Geographic Areas: 1972 and 1967

(Includes value of services reported not only by establishments classified in this industry, but also by establishments classified in other industries. See appendix, Explanation of Terms "Individual Products")

1972 service code	Type of service and geographic area	Receipts for services (million dollars)	
		1972	1967
UNITED STATES			
1382- --	Oil and gas exploration services.....	196.0	146.4
13828 01	Geophysical exploration.....	144.6	117.6
13828 03	Other exploration.....	10.8	9.6
13828 99	Exploration services, n.s.k. <sup>1</sup> .....	40.6	19.2
WEST NORTH CENTRAL DIVISION			
1382- --	Oil and gas exploration services.....	6.5	2.5
SOUTH ATLANTIC DIVISION			
1382- --	Oil and gas exploration services.....	(D)	1.7
EAST SOUTH CENTRAL DIVISION			
1382- --	Oil and gas exploration services.....	(D)	4.8
WEST SOUTH CENTRAL DIVISION			
1382- --	Oil and gas exploration services.....	114.3	100.1
13828 01	Geophysical exploration.....	89.8	80.8
13828 03	Other exploration.....	5.9	6.9
13828 99	Exploration services, n.s.k. <sup>1</sup> .....	18.6	12.4
Louisiana			
1382- --	Oil and gas exploration services.....	19.4	35.6
Texas			
1382- --	Oil and gas exploration services.....	79.4	56.1
13828 01	Geophysical exploration.....	65.1	45.9
13828 03	Other exploration.....	.9	2.4
13828 99	Exploration services, n.s.k. <sup>1</sup> .....	13.4	7.8
MOUNTAIN DIVISION			
1382- --	Oil and gas exploration services.....	18.3	15.7
13828 01	Geophysical exploration.....	13.0	10.6
13828 03	Other exploration.....	1.3	1.8
13828 99	Exploration services, n.s.k. <sup>1</sup> .....	4.0	3.3
PACIFIC DIVISION			
1382- --	Oil and gas exploration services.....	22.8	18.5
13828 01	Geophysical exploration.....	16.6	17.4

(D) Withheld to avoid disclosing figures for individual companies. n.s.k. Not specified by kind.

<sup>1</sup>This item represents the total value of receipts for establishments that did not report detailed receipts. This also includes estimates for administrative records for companies with less than five employees which were not mailed report forms.

## TABLE 4. Selected Supplies and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Cost (million dollars)	
		1972	1967
INDUSTRY 1382.--OIL AND GAS EXPLORATION SERVICES			
	Selected supplies and purchased machinery installed, total.....	47.1	34.2
331201	Steel mill shapes and forms.....	.8	1.8
353011	Purchased machinery installed.....	12.5	16.4
970099	All other supplies.....	19.8	12.0
974000	Selected supplies and purchased machinery installed, n.s.k. <sup>1</sup> .....	14.0	4.0

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1382, these small establishments accounted for less than 7 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

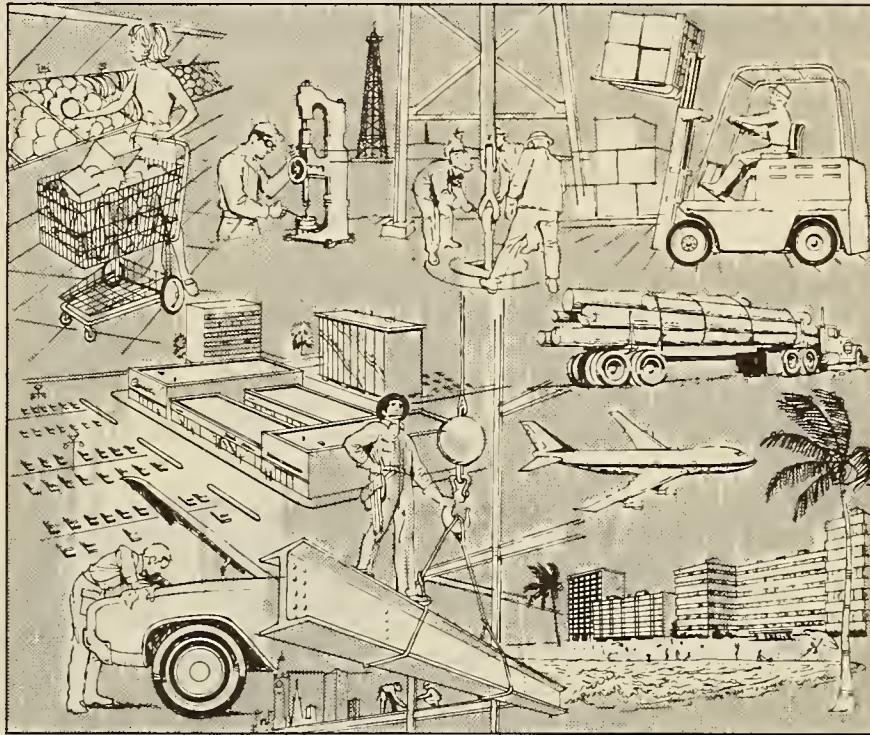
**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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PRELIMINARY REPORT

1972 CENSUS OF  
**MINERAL INDUSTRIES**  
INDUSTRY SERIES

IC72(P)13C-3

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

Issued April 1974

**Oil and Gas Field Services, N.E.C., SIC 1389**

The Oil and Gas Field Services, N.E.C., Industry includes establishments primarily engaged in performing, for others on a contract, fee, or other basis, oil and gas field services, not elsewhere classified, such as excavating slush pits and cellars; grading, and building foundations at well locations; well surveying; running, cutting, and pulling casings, tubes, and rods; cementing wells; shooting wells; perforating well casing; acidizing and chemically treating wells; and cleaning out, bailing, and swabbing wells.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Man-

ual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of services and miscellaneous receipts of establishments classified in the Oil and Gas Field Services, N.E.C., Industry amounted to \$1,401 million, an increase of 44 percent compared with 1967. Value added in mining amounted to \$1,091 million in 1972, an increase of 42 percent from 1967. Average employment in the industry showed an increase of 6 percent from 1967 to a total of 58 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments <sup>1</sup>		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of services and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1389.--OIL AND GAS FIELD SERVICES, N.E.C.											
1972 .....	3,591	723	58.0	521.5	45.4	97.7	377.3	1,091.2	451.7	1,400.7	142.2
1967 .....	3,895	751	54.8	358.7	45.3	98.2	274.4	770.4	288.8	971.0	88.2
1963 .....	3,003	434	48.3	265.7	39.0	84.1	199.4	498.0	288.9	718.8	68.2
1958 .....	2,504	411	47.3	228.0	38.2	86.1	166.9	456.0	219.9	633.7	42.2
1954 .....	2,316	(NA)	46.4	187.9	40.0	90.1	147.0	413.3	187.9	543.5	57.7

(NA) Not available.

<sup>1</sup>Establishment counts for 1972, 1967, and prior years are not entirely comparable. In 1972, companies were required to file a separate report for each State or offshore area adjacent to a State in which they performed services during the year. In 1967, companies were required to file separate reports for each State (or for each district in California, Louisiana, New Mexico, and Texas) or offshore area adjacent to a State in which they performed services during the year. Prior to 1967, a company was required to file only a single report for all oil and gas field services performed in the United States. In addition, for 1967 and 1972, companies without paid employees were excluded from the census.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972									1967	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of services and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1389.--OIL AND GAS FIELD SERVICES, N.E.C.											
United States, total.	3,591	723	58.0	521.5	45.4	97.7	377.3	1,091.2	451.7	1,400.7	142.2
Northeast Region.....	74	4	.5	4.7	.3	.8	3.4	10.6	5.7	15.1	1.1
North Central Region....	527	50	3.9	31.9	3.2	6.6	24.1	73.2	31.1	97.9	6.5
East North Central Div.	247	28	2.0	16.9	1.6	3.3	12.5	38.7	17.4	52.3	3.7
Ohio.....	76	8	.7	5.8	.5	1.1	4.1	14.4	7.9	21.0	.4
Illinois.....	106	12	.9	7.0	.7	1.4	5.2	14.8	5.4	19.2	1.0
West North Central Div.	280	22	1.9	15.0	1.6	3.3	11.6	34.5	13.8	45.6	2.8
North Dakota.....	29	4	.3	2.2	.3	.4	1.7	5.5	2.7	7.8	.4
Kansas.....	215	15	1.4	11.3	1.2	2.6	8.8	25.7	9.9	33.6	2.0
South Region.....	2,293	514	42.7	379.7	33.3	71.2	268.7	777.4	330.8	998.0	110.3
West South Central Div.	2,075	476	40.5	360.4	31.5	67.4	254.1	727.0	310.5	932.9	104.6
Arkansas.....	47	6	.3	2.4	.3	.6	1.8	7.0	2.3	8.4	.9
Louisiana.....	427	146	12.2	113.0	10.0	21.4	85.7	261.4	107.8	342.5	26.7
Oklahoma.....	381	74	8.8	81.5	5.6	10.8	45.0	92.9	32.4	114.3	10.9
Texas.....	1,220	250	19.2	163.5	15.6	34.6	121.6	365.7	168.0	467.7	66.1
West Region.....	697	155	10.9	105.2	8.6	19.1	81.1	230.0	84.1	289.7	24.3
Mountain Division.....	427	85	5.5	48.0	4.2	10.0	36.5	119.4	47.7	151.3	15.6
Wyoming.....	126	22	1.4	12.3	1.1	2.5	9.1	33.4	11.9	41.8	3.5
Colorado.....	66	11	.7	7.0	.5	1.3	5.1	17.0	7.2	20.9	3.3
New Mexico.....	154	37	2.4	19.6	1.9	4.3	15.2	45.9	18.4	58.7	5.6
Utah.....	36	12	.7	5.6	.5	1.3	4.5	15.5	(NA)	19.9	(NA)
Pacific Division.....	270	70	5.4	57.2	4.4	9.1	44.6	110.6	36.4	138.4	8.7
California.....	235	60	4.9	48.6	3.9	8.0	37.0	91.9	31.2	116.2	6.9

(NA) Not available.

TABLE 3. Primary Services of the Industry, by Geographic Area: 1972 and 1967

1972 product code	Service and geographic area	Unit of measure	Receipts for services					
			1972		1967			
			Quantity	Value (million dollars)	Quantity	Value (million dollars)		
<b>INDUSTRY 1389.--OIL AND GAS FIELD SERVICES, N.E.C.</b>								
<b>UNITED STATES</b>								
1389- --	Oil and gas field services, n.e.c., total.....	.....	(X)	1,355.9	(X)	958.8		
13898 01	Cementing wells.....	.....	(X)	169.4	(X)	118.2		
13898 02	Acidizing and other chemical treatment of wells, excluding hydraulic fracturing.....	1,000 wells...	(NA)	57.5	27.0	44.1		
13898 11	Hydraulic fracturing.....	...do...	24.0	81.3	27.5	57.6		
13898 03	Perforating well casing.....	.....	(X)	46.5	(X)	37.3		
13898 04	Well surveying and well logging.....	.....	(X)	(D)	(X)	113.4		
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	.....	(X)	78.2	(X)	51.4		
13898 15	Installing production equipment, such as wellhead fittings, pumps, and engines.....	.....	(X)	45.4	(X)	30.4		
13898 25	Cleaning out, bailing out, or swabbing wells.....	.....	(X)	48.3	(X)	48.6		
13898 35	Pumping wells but not operating leases.....	.....	(X)	11.9	(X)	9.9		
13898 36	Other oil and gas field services <sup>2</sup> .....	.....	(X)	475.6	(X)	361.3		
13898 98	Oil and gas field services, n.s.k. <sup>1</sup> .....	.....	(X)	(D)	(X)	86.7		
<b>WEST SOUTH CENTRAL DIVISION</b>								
1389- --	Oil and gas field services, n.e.c., total.....	.....	(X)	888.1	(X)	622.2		
13898 01	Cementing wells.....	.....	(X)	106.4	(X)	74.7		
13898 02	Acidizing and other chemical treatment of wells, excluding hydraulic fracturing.....	1,000 wells...	(NA)	36.4	17.6	27.7		
13898 11	Hydraulic fracturing.....	...do...	15.7	49.0	17.2	35.7		
13898 03	Perforating well casing.....	.....	(X)	33.7	(X)	25.4		
13898 04	Well surveying and well logging.....	.....	(X)	91.8	(X)	78.4		
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	.....	(X)	54.0	(X)	34.5		
13898 15	Installing production equipment, such as wellhead fittings, pumps, and engines.....	.....	(X)	24.4	(X)	21.2		
13898 25	Cleaning out, bailing out, or swabbing wells.....	.....	(X)	31.4	(X)	33.8		
13898 35	Pumping wells but not operating leases.....	.....	(X)	5.1	(X)	4.9		
13898 36	Other oil and gas field services.....	.....	(X)	335.5	(X)	232.7		
13898 98	Oil and gas field services, n.s.k. <sup>1</sup> .....	.....	(X)	120.4	(X)	53.3		
<b>Arkansas</b>								
1389- --	Oil and gas field services, n.e.c., total.....	.....	(X)	8.4	(X)	5.9		
13898 03	Perforating well casing.....	.....	(X)	-	(X)	.3		
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	.....	(X)	.6	(X)	.9		
13898 36	Other oil and gas field services <sup>2</sup> .....	.....	(X)	6.1	(X)	4.0		
13898 98	Oil and gas field services, n.s.k. <sup>1</sup> .....	.....	(X)	1.7	(X)	.7		
<b>Louisiana</b>								
1389- --	Oil and gas field services, n.e.c., total.....	.....	(X)	323.7	(X)	229.3		
13898 01	Cementing wells.....	.....	(X)	44.3	(X)	30.1		
13898 03	Perforating well casing.....	.....	(X)	(D)	(X)	9.6		
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	.....	(X)	14.6	(X)	6.0		
13898 36	Other oil and gas field services <sup>2</sup> .....	.....	(X)	211.8	(X)	171.5		
13898 98	Oil and gas field services, n.s.k. <sup>1</sup> .....	.....	(X)	(D)	(X)	12.0		
<b>Oklahoma</b>								
1389- --	Oil and gas field services, n.e.c., total.....	.....	(X)	105.5	(X)	77.0		
13898 03	Perforating well casing.....	.....	(X)	2.8	(X)	3.4		
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	.....	(X)	6.6	(X)	4.3		
13898 25	Cleaning out, bailing out, or swabbing wells.....	.....	(X)	11.8	(X)	8.8		
13898 36	Other oil and gas field services <sup>2</sup> .....	.....	(X)	63.1	(X)	51.2		
13898 98	Oil and gas field services, n.s.k. <sup>1</sup> .....	.....	(X)	21.2	(X)	8.1		
<b>Texas</b>								
1389- --	Oil and gas field services, n.e.c., total.....	.....	(X)	448.6	(X)	310.0		
13898 01	Cementing wells.....	.....	(X)	50.8	(X)	34.7		
13898 02	Acidizing and other chemical treatment of wells, excluding hydraulic fracturing.....	1,000 wells...	(NA)	21.3	10.6	17.3		
13898 11	Hydraulic fracturing.....	...do...	9.8	31.2	10.4	21.4		
13898 03	Perforating well casing.....	.....	(X)	14.3	(X)	12.1		
13898 04	Well surveying and well logging.....	.....	(X)	44.1	(X)	31.3		
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	.....	(X)	32.2	(X)	23.2		
13898 25	Cleaning out, bailing out, or swabbing wells.....	.....	(X)	10.6	(X)	16.6		
13898 36	Other oil and gas field services <sup>2</sup> .....	.....	(X)	183.0	(X)	121.0		
13898 98	Oil and gas field services, n.s.k. <sup>1</sup> .....	.....	(X)	61.1	(X)	32.5		

See footnotes at end of table.

TABLE 3. Primary Services of the Industry, by Geographic Area: 1972 and 1967—Continued

1972 product code	Service and geographic area	Unit of measure	Receipts for services					
			1972		1967			
			Quantity	Value (million dollars)	Quantity	Value (million dollars)		
INDUSTRY 1389.--OIL AND GAS FIELD SERVICES, N.E.C.--Continued								
MOUNTAIN DIVISION								
1389- --	Oil and gas field services, n.e.c., total.....	(X)	150.7	(X)	95.7			
13898 03	Perforating well casing.....	(X)	4.5	(X)	3.9			
13898 04	Well surveying and well logging.....	(X)	21.0	(X)	11.7			
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	(X)	8.8	(X)	6.9			
13898 15	Installing production equipment, such as wellhead fittings, pumps, and engines.....	(X)	7.0	(X)	3.7			
13898 25	Cleaning out, bailing out, or swabbing wells.....	(X)	3.1	(X)	5.5			
13898 35	Pumping wells but not operating leases.....	(X)	3.4	(X)	1.6			
13898 36	Other oil and gas field services <sup>2</sup> .....	(X)	80.7	(X)	52.7			
13898 98	Oil and gas field services, n.s.k. <sup>1</sup> .....	(X)	22.2	(X)	9.7			
Wyoming								
1389- --	Oil and gas field services, n.e.c., total.....	(X)	41.5	(X)	26.0			
13898 03	Perforating well casing.....	(X)	1.7	(X)	1.4			
13898 04	Well surveying and well logging.....	(X)	7.1	(X)	3.1			
13898 36	Other oil and gas field services <sup>2</sup> .....	(X)	26.3	(X)	19.0			
13898 98	Oil and gas field services, n.s.k. <sup>1</sup> .....	(X)	6.4	(X)	2.5			
New Mexico								
1389- --	Oil and gas field services, n.e.c., total.....	(X)	41.8	(X)	42.3			
13898 03	Perforating well casing.....	(X)	1.8	(X)	1.5			
13898 04	Well surveying and well logging.....	(X)	5.6	(X)	4.2			
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	(X)	3.2	(X)	3.3			
13898 15	Installing production equipment, such as wellhead fittings, pumps, and engines.....	(X)	1.5	(X)	1.4			
13898 25	Cleaning out, bailing out, or swabbing wells.....	(X)	.9	(X)	1.1			
13898 35	Pumping wells but not operating leases.....	(X)	1.6	(X)	1.1			
13898 36	Other oil and gas field services <sup>2</sup> .....	(X)	17.8	(X)	26.0			
13898 98	Oil and gas field services, n.s.k. <sup>1</sup> .....	(X)	9.4	(X)	3.7			
PACIFIC DIVISION								
1389- --	Oil and gas field services, n.e.c., total.....	(X)	135.8	(X)	120.3			
13898 03	Perforating well casing.....	(X)	2.4	(X)	3.2			
13898 04	Well surveying and well logging.....	(X)	8.1	(X)	11.5			
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	(X)	7.8	(X)	2.5			
13898 25	Cleaning out, bailing out, or swabbing wells.....	(X)	9.1	(X)	4.9			
13898 36	Other oil and gas field services <sup>2</sup> .....	(X)	87.0	(X)	91.2			
13898 98	Oil and gas field services, n.s.k. <sup>1</sup> .....	(X)	21.4	(X)	7.0			

- Represents zero. (X) Not applicable. (NA) Not available. (D) Withheld to avoid disclosing figures for individual companies. n.s.k. Not specified by kind.

<sup>1</sup>This item represents the total value of receipts for establishments that did not report detailed receipts. This also includes estimates for establishments that were not mailed report forms.

<sup>2</sup>The detail for lower level aggregates may exceed totals for "Other oil and gas field services" since other services such as cementing wells may be included in this category.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Item	Cost	
			1972	1967
INDUSTRY 1389.--OIL AND GAS FIELD SERVICES, N.E.C.				
	Selected supplies and purchased machinery installed, total.....		373.9	226.7
353011	Purchased machinery installed.....		112.3	69.2
	Supplies used:			
331201	Steel mill shapes and forms.....		14.3	5.4
970099	All other supplies.....		177.3	121.9
974000	Selected supplies and purchased machinery installed, n.s.k. <sup>1</sup> .....		70.0	30.2

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1389, these small establishments accounted for less than 2 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

**U.S. DEPARTMENT OF COMMERCE**  
**Social and Economic Statistics Administration**  
BUREAU OF THE CENSUS  
Washington, D.C. 20233

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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**  
INDUSTRY SERIES

72(P)-14A-1  
ued April 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**Dimension Stone, SIC 1411**

The Dimension Stone Industry includes establishments primarily engaged in mining or quarrying dimension stone.

Establishments primarily engaged in mining or quarrying and shaping grindstones, pulpstones, millstones, burrstones, and sharpening stones are classified in industry 1499, Miscellaneous Nonmetallic Minerals, N.E.C.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Dimension Stone Industry amounted to \$29 million, an increase of 30 percent compared with 1967. Value added in mining amounted to \$24 million in 1972, an increase of 33 percent from 1967. Average employment in the industry showed an increase of 5 percent from 1967 to a total of 2 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1411.--DIMENSION STONE											
1972.....	194	25	2.0	12.3	1.7	2.9	10.0	24.1	6.2	28.7	1.7
1967.....	244	21	1.9	9.3	1.8	3.3	7.6	18.1	5.1	22.1	1.1
1963.....	319	25	2.2	7.8	2.0	3.8	7.0	14.8	6.0	19.7	1.1
1958.....	335	26	2.3	7.1	2.1	3.7	6.1	13.1	4.0	15.9	1.2
1954.....	351	46	3.2	8.6	3.1	5.9	7.9	15.2	4.7	18.9	.9

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of industry shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1411--DIMENSION STONE													
United States, total..	194	25	2.0	12.3	1.7	2.9	10.0	24.1	6.2	28.7	1.7	1.9	18.1
Northeast Region.....	46	9	.7	4.7	.6	1.0	4.2	10.1	2.2	11.6	.6	.6	6.7
North Central Region.....	59	9	.6	3.6	.5	.9	2.9	6.9	2.2	8.7	.5	.7	6.5
South Region.....	57	7	.6	3.5	.5	.8	2.4	5.9	1.5	6.9	.4	.6	3.7
West Region.....	32	-	.1	.5	.1	.2	.5	1.3	.4	1.5	.2	.1	1.1

- Represents zero.

## TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	Shipments including interplant transfers			
			1972		1967	
			Quantity	Value (million dollars)	Quantity	Value (million dollars)
INDUSTRY 1411.--ROUGH DIMENSION STONE						
14111 01	United States, total.....	.....	(X)	35.9	(X)	28.2
14111 01	Net shipments <sup>1</sup> .....	1,000 s. tons.	1,607.7	29.5	1,915.0	25.6
14115 01	Gross shipments.....	.....do.....	1,621.6	29.7	1,971.2	28.2
14119 01	Rough dimension limestone (net shipments) <sup>1</sup> .....	.....do.....	597.8	9.5	989.7	9.2
14110 00	Rough dimension granite (net shipments) <sup>1</sup> .....	.....do.....	394.0	12.3	367.3	8.8
14110 00	Other rough dimension stone (slate, marble, sandstone, traprock, and miscellaneous stone) net shipments <sup>1</sup> .....	.....do.....	615.8	7.7	558.0	7.6
14110 00	Dimension stone n.s.k. <sup>2</sup> .....	.....	(X)	6.2	(X)	-
Northeast Region:						
1411- --	Rough dimension stone (net shipments) <sup>1</sup> .....	1,000 s. tons.	567.7	11.8	373.6	7.8
14111 01	Rough dimension limestone (net shipments) <sup>1</sup> .....	.....do.....	72.6	1.9	(NA)	(NA)
14115 01	Rough dimension granite (net shipments) <sup>1</sup> .....	.....do.....	122.3	7.0	(NA)	(NA)
14110 01	Rough dimension stone n.e.c. (net shipments) <sup>1</sup> .....	.....do.....	372.8	2.9	(NA)	(NA)
14110 00	Dimension stone, n.s.k. <sup>2</sup> .....	.....do.....	(X)	1.3	(X)	-
North Central Region:						
1411- --	Rough dimension stone (net shipments) <sup>1</sup> .....	1,000 s. tons.	562.7	9.2	(NA)	(NA)
14111 01	Rough dimension limestone (net shipments) <sup>1</sup> .....	.....do.....	400.1	5.2	(NA)	(NA)
14115 01	Rough dimension granite (net shipments) <sup>1</sup> .....	.....do.....	39.0	1.3	(NA)	(NA)
14119 01	Rough dimension stone, n.e.c. (net shipments) <sup>1</sup> .....	.....do.....	123.6	2.7	(NA)	(NA)
14110 00	Dimension stone, n.s.k. <sup>2</sup> .....	.....	(X)	1.3	(X)	-
South Region:						
1411- --	Rough dimension stone (net shipments) <sup>1</sup> .....	1,000 s. tons.	416.9	7.1	(NA)	(NA)
14119 01	Rough dimension stone, n.e.c. (net shipments) <sup>1</sup> .....	.....do.....	105.2	1.6	(NA)	(NA)
14111 01	Rough dimension limestone and granite (net shipments) <sup>1</sup> .....	.....do.....	311.7	5.5	(NA)	(NA)
14115 01	Dimension stone, n.s.k. <sup>2</sup> .....	.....	(X)	3.3	(X)	-
West Region:						
1411- --	Rough dimension stone (net shipments).....	1,000 s. tons.	60.4	1.3	(NA)	(NA)
14119 01	Rough dimension stone, n.e.c. (net shipments) <sup>1</sup> .....	.....do.....	14.3	.3	(NA)	(NA)
14111 01	Rough dimension limestone and granite (net shipments) <sup>1</sup> .....	.....do.....	46.1	1.0	(NA)	(NA)
14115 01	Dimension stone n.s.k. <sup>2</sup> .....	.....	(X)	.3	(X)	-

- Represents zero. (X) Not applicable. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

<sup>1</sup>Represents gross shipments, including interplant transfers, less rough stone received from other establishments for dressing at dressing plants operated in conjunction with a quarry. Also excludes the value of dimension stone, n.s.k.<sup>2</sup>Represents the value of products for establishments that did not report detailed figures. Also includes estimates for companies which were not mailed report forms. For 1967, such data were included with the various rough dimension stone production.

## TABLE 4. Selected Supplies and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1411.--DIMENSION STONE						
353011	Selected supplies and purchased machinery installed, total.....	.....	(X)	4.2	(X)	3.4
353011	Purchased machinery installed.....	.....	(X)	.7	(X)	.7
Supplies used:						
289211	Explosive materials, except ammonium nitrate.....	.....	(X)	.1	(X)	.1
289212	Ammonium nitrate.....	.....	(X)	.1	(X)	.1
289214	Blasting accessories.....	.....	(X)	.1	(X)	.1
331201	Steel mill shapes and forms.....	.....	(X)	.1	(X)	.1
300167	Rubber and plastic products, including tires and tubes.....	.....	(X)	(Z)	(X)	(Z)
970099	All other supplies.....	.....	(X)	1.9	(X)	2.5
974000	Undistributed supplies <sup>1</sup> .....	.....	(X)	1.4	(X)	2.5

(X) Not applicable. (Z) Less than half of the unit of measurement shown.

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1411, these small establishments accounted for less than 3 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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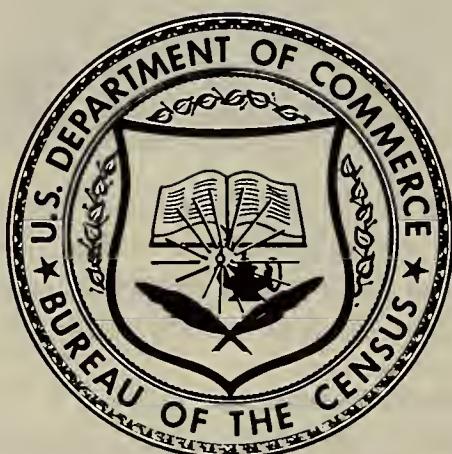
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PRELIMINARY REPORT

1972 CENSUS OF  
**MINERAL INDUSTRIES**  
INDUSTRY SERIES

C72(P)-14A-2  
sued April 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**Crushed and Broken Stone,  
Including Riprap, SIC 1422, SIC 1423, and SIC 1429**

The Crushed and Broken Limestone Industry includes establishments primarily engaged in mining or quarrying crushed and broken limestone, including related rocks such as dolomite, cement rock, marl, travertine, and calcareous tufa. Also included are establishments primarily engaged in the grinding or pulverizing of limestone, but establishments primarily engaged in producing lime are classified in industry 3274.

The Crushed and Broken Granite Industry includes establishments primarily engaged in mining or quarrying crushed and broken granite, including related rocks such as gneiss, syenite, and diorite.

The Crushed and Broken Stone, N.E.C., Industry includes establishments primarily engaged in mining or quarrying crushed and broken stone, not elsewhere classified.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for these industries, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

Data representing activities at crushed and broken stone quarries which are operated as part of manufacturing locations will be included in the final industry

reports for each of the three industries in this report.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Crushed and Broken Limestone Industry amounted to \$886 million, an increase of 33 percent compared with 1967. Value added in mining amounted to \$669 million in 1972, an increase of 36 percent from 1967. Average employment in the industry showed a decrease of 4 percent from 1967 to a total of 29 thousand employees in 1972.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Crushed and Broken Granite Industry amounted to \$167 million, an increase of 46 percent compared with 1967. Value added in mining amounted to \$117 million in 1972, an increase of 46 percent from 1967. Average employment in the industry showed no change from 1967 with a total of 4.5 thousand employees in 1972.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Crushed and Broken Stone, N.E.C., Industry amounted to \$255 million, an increase of 39 percent compared with 1967. Value added in mining amounted to \$184 million in 1972, an increase of 39 percent from 1967. Average employment in the industry showed a decrease of 4 percent from 1967 to a total of 7.4 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours - (millions)	Wages (million dollars)				
INDUSTRY 1422.--CRUSHED AND BROKEN LIMESTONE											
1972.....	1,383	473	29.4	275.1	23.7	53.5	204.0	668.7	348.8	885.6	131.9
1967.....	1,484	510	30.8	197.5	25.8	58.5	153.6	492.2	253.1	666.6	78.7
1963.....	1,612	491	31.1	160.6	26.3	59.4	126.8	408.5	194.0	542.9	59.5
1958 <sup>1</sup> .....	1,463	487	31.5	143.7	26.5	57.3	111.5	334.8	179.4	459.6	54.5
1954 <sup>2</sup> .....	1,447	388	28.2	107.8	24.9	56.3	90.7	239.6	121.1	328.8	32.0
INDUSTRY 1423.--CRUSHED AND BROKEN GRANITE											
1972.....	155	95	4.5	38.5	3.9	9.7	32.3	117.1	79.1	166.9	29.3
1967.....	149	80	4.5	27.1	3.9	8.9	22.0	80.1	47.1	114.2	13.0
1963.....	150	65	4.1	19.8	3.4	7.9	16.0	61.7	35.2	89.7	7.2
INDUSTRY 1429.--CRUSHED AND BROKEN STONE, N.E.C.											
1972.....	391	100	7.4	71.7	5.7	12.8	54.0	183.9	95.0	255.1	23.8
1967.....	400	124	7.7	56.2	6.1	13.3	40.1	132.4	68.2	179.8	17.8
1963.....	494	112	8.1	48.7	6.4	13.6	35.0	111.5	66.7	162.2	16.0
1958.....	385	105	6.9	33.1	5.8	12.5	26.1	81.1	40.4	111.4	10.1
1954 <sup>1</sup> <sup>2</sup> .....	363	101	6.7	28.8	5.9	13.7	24.4	76.6	39.8	106.6	9.8

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

<sup>1</sup>Revised in the 1958 census to include figures for establishments primarily engaged in producing quartz. Such establishments had been included in the Natural Abrasives, Except Sand, Industry for 1954 only.<sup>2</sup>Includes a portion of the products purchased for resale without further processing, amounting to less than \$1,350 thousand for all limestone quarries.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of industry shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours - (millions)	Wages (million dollars)						
INDUSTRY 1422.--CRUSHED AND BROKEN LIMESTONE													
United States, total.	1,383	473	29.4	275.1	23.7	53.5	204.0	668.7	348.8	885.6	131.9	30.7	491.7
Northeast Region.....	214	80	5.3	53.0	3.8	8.6	36.4	121.7	65.6	164.0	23.5	5.2	87.3
Pennsylvania.....	131	46	3.3	31.1	2.4	5.4	21.7	72.1	42.2	100.7	13.8	3.3	55.3
North Central Region.....	671	195	13.0	127.5	10.4	23.6	95.7	300.9	146.3	388.2	59.0	13.5	233.2
East North Central Div.	354	118	8.2	83.5	6.6	14.7	62.1	195.2	96.1	256.4	34.8	8.5	160.1
Illinois.....	122	43	2.5	26.9	2.1	5.1	21.1	66.6	33.9	90.1	3.2	2.5	54.7
Michigan.....	21	7	1.6	16.2	1.4	2.6	12.8	31.6	16.1	44.6	3.2	(NA)	(NA)
Wisconsin.....	47	12	.7	8.9	.5	1.0	5.1	17.7	6.6	21.3	3.1	(NA)	(NA)
West North Central Div.	317	77	4.8	44.0	3.8	8.9	33.6	105.7	50.7	131.8	24.2	5.0	73.1
Iowa.....	95	23	1.5	14.5	1.2	2.9	10.6	35.8	16.7	46.6	6.0	(NA)	(NA)
Missouri.....	147	33	2.0	17.9	1.6	3.5	13.7	41.0	21.3	48.3	14.0	1.8	22.6
Nebraska.....	18	6	.3	2.7	.3	.6	2.3	6.9	3.5	9.0	1.4	(NA)	(NA)
Kansas.....	34	8	.5	4.1	.4	1.0	3.6	11.5	4.0	14.3	1.3	(NA)	(NA)

See footnotes at end of table.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967—Continued

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1422.—CRUSHED AND BROKEN LIMESTONE--CONTINUED													
South Region.....	423	181	9.8	82.8	8.6	19.5	63.9	221.7	124.1	300.8	45.0	11.0	155.9
South Atlantic Division	172	81	4.5	39.2	3.7	8.5	29.0	101.5	61.3	140.3	22.4	4.6	61.2
Virginia.....	54	23	1.2	8.7	1.0	2.2	6.1	21.9	11.0	28.4	4.5	1.2	12.0
Georgia.....	11	9	.4	4.1	.4	.8	3.0	8.2	8.8	14.6	2.4	.3	1.2
East South Central Div.	187	72	3.9	30.0	3.3	7.4	23.3	82.5	48.2	113.7	17.0	4.2	64.9
Alabama.....	21	9	.6	4.9	.5	1.1	3.7	11.8	8.9	17.8	2.9	.7	10.2
West South Central Div.	64	28	1.4	13.7	1.6	3.6	11.6	37.7	14.7	46.8	5.6	2.2	29.8
Arkansas.....	10	4	.2	1.7	.2	.4	1.4	4.1	2.0	5.3	.7	(NA)	(NA)
West Region.....	75	17	1.3	11.8	.9	1.8	8.0	24.4	12.7	32.6	4.4	1.0	15.4
Mountain Division.....	25	7	.3	3.3	.3	.6	2.6	7.9	3.3	10.0	1.2	.4	5.8
Pacific Division.....	50	10	.9	8.5	.6	1.2	5.4	16.5	9.3	22.6	3.3	.6	9.6
Oregon.....	13	4	.2	2.0	.2	.4	1.7	4.3	2.6	6.2	.6	(NA)	(NA)
California.....	25	5	.6	5.5	.3	.6	3.1	9.7	4.8	13.1	1.5	.3	4.8
INDUSTRY 1423.—CRUSHED AND BROKEN GRANITE													
United States, total.	155	95	4.5	38.5	3.9	9.7	32.3	117.1	79.1	166.9	29.3	4.5	79.8
Northeast Region.....	12	9	.3	3.0	.3	.6	2.4	9.9	5.2	13.6	1.4	(NA)	(NA)
Middle Atlantic Div....	10	7	.2	2.0	.2	.5	1.7	8.3	4.4	11.4	1.3	.1	1.5
Pennsylvania.....	6	5	.4	1.1	.1	.3	.9	5.4	3.5	7.8	1.1	(NA)	(NA)
North Central Region....	14	7	.3	2.6	.2	.5	2.1	4.4	(D)	6.1	(D)	.1	1.7
East North Central Div.	8	4	.2	1.4	.1	.3	1.1	2.8	(D)	3.3	(D)	(NA)	(NA)
Illinois.....	3	2	.1	.9	.1	.2	.7	1.8	.5	2.0	.2	(NA)	(NA)
South Region.....	107	74	3.5	29.2	3.3	8.0	24.7	93.3	61.9	135.7	19.5	3.6	61.7
South Atlantic Division	93	66	2.9	23.8	2.7	6.7	20.3	78.9	53.6	115.3	17.3	(NA)	(NA)
Virginia.....	26	16	.7	7.0	.6	1.6	5.8	16.6	13.6	26.1	4.1	.5	10.5
North Carolina.....	41	26	1.0	7.8	.9	2.4	6.9	23.7	16.8	37.1	3.4	1.0	18.3
Georgia.....	19	17	.9	6.8	.8	2.0	5.8	29.8	19.1	40.8	8.1	1.1	20.2
West Region.....	22	5	.3	3.7	.3	.6	3.0	9.6	(D)	11.6	(D)	.4	8.9
California.....	13	1	.1	1.8	.1	.3	1.7	6.1	(D)	6.7	(D)	.4	8.6
INDUSTRY 1429.—CRUSHED AND BROKEN STONE, N.E.C.													
United States, total.	391	100	7.4	71.7	5.7	12.8	54.0	183.9	95.0	255.1	23.8	7.7	132.4
Northeast Region.....	76	24	2.0	23.8	1.4	3.2	16.3	59.4	27.0	81.7	5.0	(NA)	(NA)
New England Division...	18	5	.3	4.9	.3	.7	4.0	12.8	4.0	16.0	.8	.4	9.0
New Hampshire.....	4	-	-	.3	-	-	.2	.5	.5	.9	.1	(NA)	(NA)
Middle Atlantic Div....	58	19	1.7	18.9	1.1	2.5	12.3	46.7	23.1	65.7	4.2	2.3	46.0
New York.....	16	7	.5	6.8	.4	.9	4.6	14.9	6.7	20.6	1.2	(NA)	(NA)
New Jersey.....	14	7	.8	8.4	.5	1.0	5.3	25.6	9.9	33.7	1.8	(NA)	(NA)
Pennsylvania.....	28	5	.4	3.7	.3	.6	2.3	6.2	6.4	11.5	1.2	(NA)	(NA)
North Central Region....	84	13	1.3	10.2	.7	1.6	7.2	16.8	(D)	27.2	(D)	(NA)	(NA)
East North Central Div.	50	8	.9	7.0	.5	1.1	5.1	11.8	(D)	17.6	(D)	.6	7.4
Michigan.....	7	-	.1	.7	-	.1	.4	1.1	.8	1.7	.2	(NA)	(NA)
West North Central Div.	34	5	.4	3.2	.3	.5	2.0	5.1	3.0	7.5	.6	.4	5.7
Kansas.....	7	3	.1	1.0	.1	.2	.8	1.8	1.1	2.6	.3	(NA)	(NA)
South Region.....	114	50	3.0	25.1	2.7	6.2	20.5	80.3	40.0	108.0	12.3	2.4	34.5
Virginia.....	14	7	.3	3.1	.3	.7	2.3	9.1	5.8	13.9	1.0	.4	6.5
West Virginia.....	10	2	.1	1.0	.1	.2	.8	5.1	1.9	6.5	.4	(NA)	(NA)
Georgia.....	8	5	.5	3.7	.4	.9	3.1	9.2	6.0	13.7	1.6	.5	7.1
Alabama.....	6	5	.5	3.2	.4	.9	2.6	10.8	(D)	13.2	(D)	(NA)	(NA)
West Region.....	117	13	1.1	12.6	.9	1.8	10.0	27.4	(D)	38.2	(D)	1.5	29.9
Utah.....	3	-	-	-	-	-	-	.1	-	.1	-	(NA)	(NA)
Oregon.....	38	5	.3	3.6	.3	.6	2.9	7.4	4.7	10.2	1.9	.4	7.0
California.....	40	4	.4	5.1	.3	.7	4.3	10.7	(D)	15.8	(D)	.6	14.0

- Represents zero.

(NA) Not available.

(D) Withheld to avoid disclosing figures for individual companies.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967	
			Net production	Net shipments including interplant transfers		Net production
				Quantity	Value (million dollars)	
14222 01	CRUSHED AND BROKEN LIMESTONE					
	United States, total.....	Mil.s.tons	598.0	499.8	857.3	548.5
	New England Division.....	do.....	2.8	2.8	8.3	3.9
	Maine.....	do.....	.4	.4	1.4	1.1
	Massachusetts.....	do.....	.8	.8	2.7	1.6
	Middle Atlantic Division.....	do.....	85.9	71.8	149.8	78.7
	New York.....	do.....	26.5	21.9	46.7	22.5
	New Jersey.....	do.....	1.5	1.4	6.2	1.7
	Pennsylvania.....	do.....	57.9	48.5	97.0	54.5
	East North Central Division.....	do.....	172.6	154.0	241.8	167.0
	Ohio.....	do.....	40.9	34.9	58.8	47.7
	Indiana.....	do.....	27.1	25.3	39.4	25.1
	Illinois.....	do.....	52.9	48.3	84.6	52.3
	Michigan.....	do.....	39.9	33.7	42.5	29.7
	Wisconsin.....	do.....	11.7	11.8	16.5	12.3
	West North Central Division.....	do.....	87.9	73.0	131.3	82.5
	Minnesota.....	do.....	4.7	4.5	7.6	4.7
	Iowa.....	do.....	26.1	23.9	43.5	31.2
	Missouri.....	do.....	36.2	29.4	50.3	29.1
	Nebraska.....	do.....	5.1	3.7	8.7	4.9
	Kansas.....	do.....	12.4	8.9	15.6	11.8
	South Atlantic Division.....	do.....	76.5	66.0	117.9	68.9
	Virginia.....	do.....	16.8	14.8	28.5	15.7
	West Virginia.....	do.....	8.5	8.3	14.8	9.7
	North Carolina.....	do.....	2.4	1.7	3.6	6.5
	Georgia.....	do.....	5.5	5.2	10.2	3.0
	Florida.....	do.....	23.4	22.1	30.6	22.6
	East South Central Division.....	do.....	75.7	67.7	110.0	73.4
	Kentucky.....	do.....	32.4	30.4	47.0	26.0
	Tennessee.....	do.....	28.8	26.6	43.2	30.3
	West South Central Division.....	do.....	46.4	35.8	48.2	43.4
	Arkansas.....	do.....	5.3	4.1	5.7	5.9
	Louisiana.....	do.....	12.8	10.7	15.5	11.3
	Oklahoma.....	do.....	28.3	21.0	26.9	26.3
	Texas.....	do.....	10.5	4.9	11.2	9.5
	Mountain Division.....	do.....	2.2	1.2	2.7	1.1
	Montana.....	do.....	2.9	1.2	3.0	.8
	Wyoming.....	do.....	1.2	.5	1.1	.9
	Utah.....	do.....	1.2	.5	1.1	.4
	Nevada.....	do.....	39.6	23.8	38.8	21.2
	Pacific.....	do.....	1.7	1.0	2.8	2.1
	Washington.....	do.....	3.4	3.2	7.0	2.4
	Oregon.....	do.....	33.4	19.4	27.9	15.6
	California.....	do.....	1.2	.5	1.1	1.1
	Hawaii.....	do.....	106.7	103.2	173.0	67.6
14232 01	CRUSHED AND BROKEN GRANITE					
	United States, total.....	do.....	105.7	103.2	173.0	67.6
	Northeast Region.....	do.....	5.6	5.6	11.8	4.2
	Massachusetts.....	do.....	.9	.9	1.8	2.4
	New York.....	do.....	.2	.2	.4	(NA)
	Pennsylvania.....	do.....	3.2	3.1	6.2	(NA)
	East North Central Division.....	do.....	2.1	1.9	3.6	.1
	West North Central Division.....	do.....	1.9	1.8	2.7	1.1
	Missouri.....	do.....	.6	.6	1.0	(NA)
	South Region.....	do.....	83.7	81.8	137.7	53.4
	Virginia.....	do.....	16.0	15.2	26.3	(NA)
	North Carolina.....	do.....	21.5	20.6	36.9	17.1
	South Carolina.....	do.....	5.4	5.4	9.8	5.9
	Georgia.....	do.....	24.1	24.1	40.1	17.3
	Alabama.....	do.....	.8	.8	1.3	(NA)
	West Region.....	do.....	12.3	12.1	17.3	8.7
	Washington.....	do.....	2.2	2.2	3.0	(NA)
	California.....	do.....	8.7	8.6	12.1	8.6

See footnotes at end of table.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967—Continued

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972			1967		
			Net production	Net shipments including interplant transfers		Net production	Net shipments including interplant transfers	
				Quantity	Value (million dollars)		Quantity	Value (million dollars)
14292 01	CRUSHED AND BROKEN STONE, NOT ELSEWHERE CLASSIFIED							
	United States, total.....	Mils.tons	124.6	117.6	262.0	89.9	86.7	188.4
	Northeast Region.....	do	39.9	37.3	82.1	(NA)	(NA)	(NA)
	New England Division.....	do	9.8	9.7	21.2	9.0	8.1	14.7
	New Hampshire.....	do	.6	.6	.9	.6	(NA)	1.1
	Massachusetts.....	do	3.4	3.3	7.2	(NA)	(NA)	(NA)
	Rhode Island.....	do	.6	.6	.2	(NA)	(NA)	(NA)
	Middle Atlantic Division.....	do	30.1	27.6	60.9	28.6	28.0	63.3
	New York.....	do	10.1	9.8	20.9	11.3	10.6	22.4
	New Jersey.....	do	11.6	11.6	28.3	10.2	10.0	22.2
	Pennsylvania.....	do	8.3	6.1	11.7	7.0	7.2	18.7
	North Central Region.....	do	13.9	13.3	27.5	(NA)	(NA)	(NA)
	East North Central Division.....	do	9.0	8.5	17.7	4.8	4.8	11.4
	Ohio.....	do	.7	.7	1.4	1.0	1.0	2.4
	Indiana.....	do	.2	.2	.5	(NA)	(NA)	(NA)
	Illinois.....	do	2.0	2.0	3.9	1.1	1.2	1.7
	Michigan.....	do	1.0	1.0	1.5	1.2	1.2	2.2
	Wisconsin.....	do	5.1	4.7	10.3	(NA)	(NA)	(NA)
	West North Central Division.....	do	4.7	4.8	9.8	(NA)	(NA)	(NA)
	Minnesota.....	do	.5	.4	1.3	.6	.6	1.1
	Iowa.....	do	.5	.5	.8	(NA)	(NA)	(NA)
	Missouri.....	do	2.0	2.0	3.5	(NA)	(NA)	(NA)
	South Dakota.....	do	.8	.8	1.6	(NA)	(NA)	(NA)
	Kansas.....	do	1.0	1.0	2.5	(NA)	(NA)	(NA)
	South Region.....	do	46.1	44.9	108.3	20.4	20.0	51.4
	South Atlantic Division.....	do	34.4	33.1	78.1	(NA)	(NA)	(NA)
	Virginia.....	do	6.7	6.6	13.4	3.8	3.8	8.9
	West Virginia.....	do	1.3	1.3	5.0	.5	.5	1.2
	North Carolina.....	do	10.0	9.9	15.1	3.8	3.7	7.2
	Georgia.....	do	2.1	1.1	13.8	1.6	1.5	10.3
	East South Central Division.....	do	5.5	5.5	17.4	(NA)	(NA)	(NA)
	Tennessee.....	do	1.4	1.4	3.1	(NA)	(NA)	(NA)
	Alabama.....	do	3.7	3.7	13.1	(NA)	(NA)	(NA)
	West South Central Division.....	do	6.2	6.2	12.8	(NA)	(NA)	(NA)
	Arkansas.....	do	2.9	2.9	4.7	(NA)	(NA)	(NA)
	Louisiana.....	do	.3	.3	1.0	(NA)	(NA)	(NA)
	Oklahoma.....	do	.4	.4	1.6	(NA)	(NA)	(NA)
	Texas.....	do	2.5	2.5	5.5	(NA)	(NA)	(NA)
	West Region.....	do	24.7	22.1	44.0	(NA)	(NA)	(NA)
	Mountain Division.....	do	3.8	2.9	8.1	(NA)	(NA)	(NA)
	Idaho.....	do	1.1	1.1	2.5	(NA)	(NA)	(NA)
	Arizona.....	do	2.6	1.5	3.5	.2	.2	1.0
	Pacific Division.....	do	20.7	19.2	35.8	(NA)	(NA)	(NA)
	Washington.....	do	2.4	2.3	4.5	2.3	2.3	4.4
	Oregon.....	do	5.9	5.6	10.8	4.7	4.6	9.4
	California.....	do	11.0	10.1	16.7	11.5	10.9	18.0

- Represents zero. (NA) Not available.

**TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:**  
**1972 and 1967**

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
<b>INDUSTRY 1422.--CRUSHED AND BROKEN LIMESTONE</b>						
	Selected supplies, minerals received for preparation and purchased machinery installed, total.....	.....	(X)	251.8	(X)	181.7
	Minerals received for preparation:					
141101	Rough blocks used to produce dressed stone.....	1,000 s. tons.	486.1	.7	(Z)	(Z)
142101	Broken stone received for crushing, screening, or washing.....	...do.....	4,913.9	7.1	6,318.0	8.0
144211	Sand and gravel.....	...do.....	1,435.5	2.2	846.8	1.2
353011	Purchased machinery installed.....	.....	(X)	84.1	(X)	60.9
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	70,132.5	16.7	76,618.1	15.1
289212	Ammonium nitrate.....	...do.....	84,794.1	4.6	73,390.1	3.4
289214	Blasting accessories.....	.....	(X)	3.4	(X)	1.9
331201	Steel mill shapes and forms.....	.....	(X)	12.5	(NA)	7.4
300167	Rubber and plastic products, including tires and tubes.....	.....	(X)	10.4	(X)	6.4
970099	All other supplies.....	.....	(X)	83.0	(X)	77.5
974000	Undistributed supplies <sup>1</sup> .....	.....	(X)	27.1		
<b>INDUSTRY 1423.--CRUSHED AND BROKEN GRANITE</b>						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	69.4	(X)	39.5
	Minerals received for preparation:					
142101	Broken stone received for crushing, screening, or washing.....	1,000 s. tons.	(NA)	.4	253.0	.2
144211	Sand and gravel.....	...do.....	(NA)	.2	287.8	.5
353011	Purchased machinery installed.....	.....	(X)	25.7	(X)	12.6
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	15,585.3	4.0	12,271.2	2.4
289212	Ammonium nitrate.....	...do.....	18,735.8	1.2	14,702.6	.6
289214	Blasting accessories.....	.....	(X)	.4	(X)	.3
331201	Steel mill shapes and forms.....	.....	(X)	3.3	(NA)	2.1
300167	Rubber and plastic products, including tires and tubes.....	.....	(X)	2.8	(X)	1.4
970099	All other supplies.....	.....	(X)	24.8	(X)	19.4
974000	Undistributed supplies <sup>1</sup> .....	.....	(X)	6.6		
<b>INDUSTRY 1429.--CRUSHED AND BROKEN STONE</b>						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	68.8	(X)	47.9
	Minerals received for preparation:					
142101	Broken stone received for crushing, screening, or washing.....	1,000 s. tons.	3,070.8	5.6	3,206.8	2.9
144211	Sand and gravel.....	...do.....	(NA)	1.0	1,049.4	.3
353011	Purchased machinery installed.....	.....	(X)	16.8	(X)	13.4
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	9,433.2	2.5	8,055.8	1.6
289212	Ammonium nitrate.....	...do.....	12,809.3	.7	8,904.0	.4
289214	Blasting accessories.....	.....	(X)	.4	(X)	.3
331201	Steel mill shapes and forms.....	.....	(X)	3.1	(NA)	2.9
300167	Rubber and plastic products, including tires and tubes.....	.....	(X)	2.1	(X)	1.2
970099	All other supplies.....	.....	(X)	26.3	(X)	24.8
974000	Undistributed supplies <sup>1</sup> .....	.....	(X)	10.3		

(X) Not applicable. (NA) Not available. (Z) Less than half of the unit of measurement shown.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data, and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1422, these small establishments accounted for less than 2 percent of value added. In industry 1423 these small establishments accounted for less than 1 percent of value added. In industry 1429 these small establishments accounted for less than 2 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid

employees were excluded because of the difficulty in developing a universe list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.



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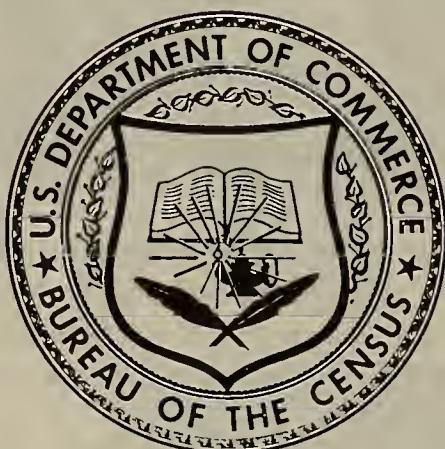
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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**  
INDUSTRY SERIES

MIC72(P)-14B

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

Issued April 1974

**Sand and Gravel, SIC 1442 and SIC 1446**

The Construction Sand and Gravel Industry includes establishments primarily engaged in operating sand and gravel pits and dredges, and in washing, screening, or otherwise preparing sand and gravel for construction uses.

The Industrial Sand Industry includes establishments primarily engaged in operating sand pits and dredges, and in washing, screening, and otherwise preparing sand for uses other than construction, such as glass-making, molding, and abrasives.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which serve mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for these industries as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Construction Sand and Gravel Industry amounted to \$886 million, an increase of 42 percent compared with 1967. Value added in mining amounted to \$689 million in 1972, an increase of 43 percent from 1967. Average employment in the industry showed a decrease of less than 1 percent from 1967 to a total of 30.3 thousand employees in 1972.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Industrial Sand Industry amounted to \$125 million, an increase of 42 percent compared with 1967. Value added in mining amounted to \$92 million in 1972, an increase of 39 percent from 1967. Average employment in the industry showed an increase of 7 percent from 1967 to a total of 4.4 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of sup- plies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1442.--CONSTRUCTION SAND AND GRAVEL											
1972.....	2,764	395	30.3	287.3	23.6	51.7	210.8	688.7	319.1	886.3	121.5
1967.....	3,069	422	30.5	202.0	24.8	53.1	154.6	481.7	228.4	625.4	84.7
1963.....	4,419	462	36.4	190.9	30.0	64.0	154.5	459.3	217.2	607.5	69.0
INDUSTRY 1446.--INDUSTRIAL SAND											
1972.....	168	64	4.4	40.4	3.2	7.0	27.0	91.8	50.0	125.4	16.4
1967.....	163	63	4.1	27.2	3.2	6.8	19.1	65.9	33.3	88.4	9.6
1963.....	197	50	3.7	21.2	3.0	6.6	15.8	54.4	22.9	70.5	6.8

Note: For years prior to 1963, figures for the Construction Sand and Gravel Industry and the Industrial Sand Industry were combined and separate data are not available.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972											1967	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1442.--CONSTRUCTION SANO AND GRAVEL													
United States, total.	2,764	395	30.3	287.3	23.6	51.7	210.8	688.7	319.1	886.3	121.5	30.5	481.7
Northeast Region.....	477	60	5.1	51.5	4.0	8.7	37.8	122.6	50.9	154.3	19.2	5.0	84.8
New Hampshire.....	17	2	.1	1.5	.1	.3	1.2	4.2	1.7	5.2	.7	.2	2.2
New Jersey.....	67	11	.8	7.5	.8	1.3	5.9	22.1	(D)	28.2	(D)	.7	12.8
North Central Region.....	1,179	123	10.0	95.5	7.9	17.2	72.2	220.9	101.2	285.7	36.4	10.9	171.8
East North Central Div.	753	82	6.7	66.4	5.3	11.5	49.9	159.6	70.8	205.7	24.7	7.3	124.9
Ohio.....	232	28	2.0	18.7	1.6	3.5	14.1	48.3	20.5	62.3	6.5	2.3	38.3
Illinois.....	134	20	1.3	13.2	1.0	2.2	10.0	29.5	15.3	38.8	6.0	1.3	22.9
Michigan.....	165	15	1.3	14.8	1.1	2.3	11.5	35.1	13.7	43.9	4.9	1.6	27.8
West North Central Div.	426	41	3.3	29.1	2.6	5.7	22.3	61.3	30.4	80.0	11.7	3.6	46.9
South Region.....	663	130	9.2	72.7	7.5	17.5	56.4	202.0	96.2	255.7	42.5	9.0	123.8
South Atlantic Division	227	46	3.4	28.6	2.8	6.7	22.2	74.4	39.4	100.6	13.2	3.1	42.9
Virginia.....	41	11	.7	6.8	.6	1.4	4.5	18.2	6.4	21.8	2.8	.7	8.3
South Carolina.....	21	6	.4	3.2	.4	1.0	2.7	9.5	4.1	12.2	1.3	(NA)	(NA)
Florida.....	43	3	.5	4.4	.4	1.0	3.4	12.4	6.6	16.7	2.3	.4	6.0
East South Central Div.	146	32	2.1	15.6	1.6	3.7	11.6	37.2	22.1	50.0	9.3	1.9	25.2
Tennessee.....	38	9	.6	5.3	.5	1.2	3.8	14.0	7.0	17.8	3.3	(NA)	(NA)
Mississippi.....	49	11	.7	5.4	.5	1.3	3.7	11.3	7.6	16.6	2.4	(NA)	(NA)
West South Central Div.	290	52	3.7	28.5	3.0	7.1	22.6	90.5	34.6	105.1	20.0	4.0	55.7
Texas.....	169	30	2.2	18.0	1.8	4.5	14.6	60.9	20.0	65.4	15.7	2.1	29.7
West Region.....	445	82	6.0	67.5	4.2	8.5	44.1	143.1	70.9	190.7	23.3	5.6	101.3
Mountain Division.....	145	17	1.3	14.7	.8	1.7	8.6	27.9	12.8	35.2	5.5	1.3	17.7
Pacific Division.....	300	65	4.7	52.8	3.4	6.8	35.5	115.1	57.9	155.2	17.8	4.3	83.6
INDUSTRY 1446.--INDUSTRIAL SAND													
United States, total.	168	64	4.4	40.4	3.2	7.0	27.0	91.8	50.0	125.4	16.4	4.1	65.9
Northeast Region.....	33	17	1.0	8.7	.8	1.6	6.1	19.1	10.7	24.8	5.0	(NA)	(NA)
New Jersey.....	15	9	.5	4.7	.4	.9	3.2	11.2	6.4	15.0	2.5	.6	9.0
North Central Region.....	58	18	1.5	14.5	1.1	2.4	10.2	35.6	19.0	50.5	4.3	1.5	28.9
East North Central Div.	46	15	1.2	12.7	.9	2.0	8.7	30.9	16.5	43.9	3.5	1.3	25.1
Ohio.....	15	4	.3	2.6	.2	.5	1.8	4.8	3.0	7.2	.6	.3	4.3
Illinois.....	9	5	.6	5.6	.4	.9	3.6	14.7	8.1	21.8	1.1	.6	11.1
Michigan.....	11	4	.2	2.9	.2	.4	2.0	7.1	3.6	9.6	1.1	.3	6.6
West North Central Div.	12	3	.2	1.8	.2	.4	1.5	4.7	2.5	6.6	.8	.2	3.8
South Region.....	57	23	1.7	13.3	1.1	2.4	7.5	27.0	12.9	35.6	4.4	(NA)	(NA)
South Atlantic Division	25	13	1.2	9.6	.7	1.4	4.8	16.5	7.8	21.4	3.0	.7	7.5
Virginia.....	4	2	.1	.7	.1	.2	.6	1.6	.9	2.1	.4	(NA)	(NA)
South Carolina.....	3	1	.1	.5	.1	.1	.4	1.8	1.2	2.8	.2	(NA)	(NA)
Florida.....	5	1	.1	1.0	.1	.2	.7	1.8	1.8	3.3	.5	(NA)	(NA)
East South Central Div.	15	3	.2	1.3	.2	.4	1.0	2.7	1.6	4.0	.3	.2	2.2
Louisiana.....	8	2	.1	.8	.1	.2	.6	1.8	1.2	2.8	.2	(NA)	(NA)
West South Central Div.	17	7	.3	2.4	.3	.6	1.8	7.8	3.5	10.1	1.1	(NA)	(NA)
Texas.....	11	3	.2	1.1	.1	.3	.8	3.7	1.4	4.5	.5	.2	2.4
West Region.....	20	6	.3	3.9	.3	.6	3.1	10.2	7.3	14.6	2.8	.3	7.5
Mountain Division.....	7	1	.1	.8	.1	.1	.6	1.7	.7	2.3	.2	.1	1.3
Pacific Division.....	13	5	.3	3.2	.2	.5	2.6	8.5	6.6	12.3	2.6	.2	6.2

(NA) Not available. (D) Withheld to avoid disclosing figures for individual companies.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967	
			Production	Shipments including interplant transfers		Production
				Quantity	Value (million dollars)	
<b>CONSTRUCTION SAND AND GRAVEL</b>						
1442- --	United States, total.....	Mill. s. tons.	717.2	697.4	893.7	618.3
14421 01	Construction sand.....	do.....	225.9	221.6	266.8	207.3
14422 01	Run of pit or bank.....	do.....	33.9	32.6	32.7	31.8
14421 05	Washed, screened, ground, or otherwise prepared.....	do.....	192.0	188.9	234.1	174.7
14422 05	Gravel.....	do.....	222.6	217.9	330.9	228.6
14420 00	Run of pit or bank.....	do.....	36.0	34.9	38.3	39.4
14422 05	Washed, screened, or otherwise prepared.....	do.....	186.6	183.0	292.6	189.1
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	268.7	257.9	296.0	182.3
14421 01	New England Division, total.....	do.....	41.5	41.0	49.8	30.5
14422 01	Construction sand.....	do.....	7.6	7.6	10.6	8.0
14421 05	Run of pit or bank.....	do.....	.9	1.0	1.7	1.9
14422 05	Washed, screened, ground, or otherwise prepared.....	do.....	6.7	6.6	8.9	6.1
14420 00	Gravel.....	do.....	8.4	8.3	13.8	7.7
14421 05	Run of pit or bank.....	do.....	2.2	2.2	1.9	2.0
14422 05	Washed, screened, or otherwise prepared.....	do.....	6.2	6.1	11.9	5.7
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	25.5	25.1	25.4	14.8
14421 01	Maine, total.....	do.....	1.1	1.1	1.2	1.1
14422 01	New Hampshire, total.....	do.....	5.2	5.1	5.3	3.0
14421 05	Construction sand.....	do.....	1.4	1.3	.9	.8
14422 05	Gravel.....	do.....	1.5	1.5	1.7	.5
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	2.3	2.3	2.7	1.7
14421 01	Vermont, total.....	do.....	1.0	1.0	1.6	2.0
14422 01	Massachusetts, total.....	do.....	17.3	16.8	22.1	13.5
14421 05	Construction sand.....	do.....	3.8	3.6	5.7	4.3
14422 05	Run of pit or bank.....	do.....	.4	.4	.6	.7
14420 00	Washed, screened, ground, or otherwise prepared.....	do.....	3.4	3.2	5.1	3.6
14421 05	Gravel.....	do.....	3.9	4.0	7.2	4.4
14422 05	Run of pit or bank.....	do.....	1.3	1.3	1.2	1.2
14420 00	Washed, screened, or otherwise prepared.....	do.....	2.6	2.7	6.0	3.2
14421 05	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	9.6	9.2	9.2	4.8
14421 01	Rhode Island, total.....	do.....	4.5	4.5	5.9	3.9
14422 01	Construction sand.....	do.....	.5	.5	.7	1.5
14421 05	Gravel.....	do.....	1.1	1.1	1.9	1.2
14422 05	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	2.9	2.9	3.3	1.2
14420 00	Connecticut, total.....	do.....	8.5	8.5	13.8	7.0
14421 01	Middle Atlantic Division.....	do.....	72.8	69.2	111.5	72.7
14422 01	Construction sand.....	do.....	32.7	31.5	50.3	31.2
14421 05	Run of pit or bank.....	do.....	6.6	6.5	7.4	5.0
14422 05	Washed, screened, ground, or otherwise prepared.....	do.....	26.1	25.0	42.9	26.2
14420 00	Gravel.....	do.....	18.0	17.7	33.9	19.4
14421 05	Run of pit or bank.....	do.....	3.9	3.8	4.5	5.2
14422 05	Washed, screened, or otherwise prepared.....	do.....	14.1	13.9	29.4	14.2
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	22.1	20.0	27.3	22.2
14421 01	New York, total.....	do.....	32.0	30.4	45.6	34.0
14422 01	Construction sand.....	do.....	11.8	11.5	17.9	10.9
14421 05	Run of pit or bank.....	do.....	3.1	3.1	3.6	2.5
14422 05	Washed, screened, ground, or otherwise prepared.....	do.....	8.7	8.4	14.3	8.4
14420 00	Gravel.....	do.....	7.6	7.4	13.6	7.4
14421 05	Run of pit or bank.....	do.....	2.0	2.0	2.2	3.0
14422 05	Washed, screened, or otherwise prepared.....	do.....	5.6	5.4	11.4	4.4
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	12.6	11.5	14.1	15.7
14421 01	New Jersey, total.....	do.....	19.2	18.6	28.1	15.7
14422 01	Construction sand.....	do.....	10.6	10.3	15.6	8.7
14421 05	Run of pit or bank.....	do.....	2.9	2.8	3.1	1.9
14422 05	Washed, screened, ground, or otherwise prepared.....	do.....	7.7	7.5	12.5	6.8
14420 00	Gravel.....	do.....	3.5	3.3	5.8	4.7
14421 05	Run of pit or bank.....	do.....	1.4	1.3	1.9	1.4
14422 05	Washed, screened, or otherwise prepared.....	do.....	2.1	2.0	3.9	3.4
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	5.1	5.0	6.7	2.3

See footnote at end of table.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967—Continued

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967					
			Production	Shipments including interplant transfers		Production				
				Quantity	Value (million dollars)					
CONSTRUCTION SAND AND GRAVEL--Continued										
Middle Atlantic Division--Continued										
14422 01	Pennsylvania, total.....	Mil. s. tons	22.0	21.6	37.8	23.0	22.7	32.6		
	Construction sand.....	do.	9.6	9.4	16.8	11.6	11.4	16.6		
	Washed, screened, ground, or otherwise prepared.....	do.	9.0	8.8	16.1	11.0	10.8	15.9		
	Gravel.....	do.	7.5	7.3	14.6	7.2	7.1	10.4		
14422 05	Washed, screened, or otherwise prepared.....	do.	7.1	6.9	14.1	6.5	6.4	9.7		
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.	4.9	4.9	6.4	4.2	4.2	5.5		
14420 00	East North Central Division, total.....	do.	185.0	180.4	208.4	165.8	161.4	160.5		
	Construction sand.....	do.	53.4	52.6	56.9	48.8	48.0	48.1		
	Run of pit or bank.....	do.	11.1	10.9	8.9	8.2	8.1	7.1		
	Washed, screened, ground, or otherwise prepared.....	do.	42.3	41.7	48.0	40.6	39.8	41.0		
	Gravel.....	do.	64.6	63.7	85.5	71.0	69.5	75.6		
	Run of pit or bank.....	do.	7.6	7.5	7.7	12.2	12.1	10.3		
	Washed, screened, or otherwise prepared.....	do.	57.0	56.2	77.8	58.8	57.5	65.3		
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.	67.0	64.1	66.0	46.0	43.9	36.8		
	Ohio, total.....	do.	50.2	49.1	62.5	47.0	45.6	50.0		
	Construction sand.....	do.	15.1	14.6	18.9	14.9	14.5	16.7		
14421 01	Run of pit or bank.....	do.	2.1	2.1	2.4	1.6	1.6	1.7		
	Washed, screened, ground, or otherwise prepared.....	do.	13.0	12.5	16.5	13.3	12.8	15.0		
14422 01	Gravel.....	do.	20.4	20.0	29.1	19.7	19.0	22.9		
	Run of pit or bank.....	do.	2.4	2.4	2.5	2.1	2.1	2.2		
	Washed, screened, or otherwise prepared.....	do.	18.0	17.6	26.6	17.6	16.9	20.8		
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.	14.7	14.5	14.5	12.4	12.1	10.4		
14420 00	Indiana, total.....	do.	30.6	30.3	35.6	22.8	22.5	22.5		
	Construction sand.....	do.	7.1	7.1	8.0	8.2	8.2	7.3		
	Washed, screened, ground, or otherwise prepared.....	do.	6.3	6.3	7.1	7.6	7.6	6.9		
	Gravel.....	do.	12.2	12.1	16.3	10.9	10.8	12.0		
	Washed, screened, or otherwise prepared.....	do.	9.5	9.5	13.1	9.6	9.6	11.0		
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.	11.3	11.1	11.3	3.7	3.5	3.2		
	Illinois, total.....	do.	37.8	36.9	41.7	31.3	30.4	28.0		
	Construction sand.....	do.	15.1	14.7	16.1	11.0	10.7	10.7		
	Run of pit or bank.....	do.	2.6	2.5	2.6	2.2	2.1	2.1		
	Washed, screened, ground, or otherwise prepared.....	do.	12.5	12.2	13.5	8.8	8.6	8.6		
14421 05	Gravel.....	do.	12.5	12.4	15.8	11.6	11.5	11.1		
	Run of pit or bank.....	do.	.9	.8	.8	2.3	2.2	2.2		
	Washed, screened, or otherwise prepared.....	do.	11.6	11.6	15.0	9.3	9.3	8.9		
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.	10.2	9.8	9.8	8.7	8.1	6.2		
14422 05	Michigan, total.....	do.	44.5	43.4	47.7	40.0	39.1	36.9		
	Construction sand.....	do.	12.4	12.0	11.0	9.8	9.8	8.9		
	Run of pit or bank.....	do.	4.5	4.5	2.3	2.3	2.3	1.6		
	Washed, screened, ground, or otherwise prepared.....	do.	7.9	7.5	8.7	7.6	7.5	7.3		
	Gravel.....	do.	12.8	12.7	17.9	17.2	17.1	17.8		
	Run of pit or bank.....	do.	1.2	1.2	.9	4.0	3.9	3.0		
	Washed, screened, or otherwise prepared.....	do.	11.6	11.5	17.0	13.2	13.1	14.9		
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.	19.3	18.7	18.8	13.0	12.2	10.2		
	Wisconsin, total.....	do.	22.9	22.0	22.5	24.8	23.9	23.0		
	Construction sand.....	do.	3.2	3.1	3.0	4.9	4.8	4.5		
14421 01	Run of pit or bank.....	do.	.9	.9	.8	1.5	1.6	1.2		
	Washed, screened, ground, or otherwise prepared.....	do.	2.3	2.2	2.2	3.4	3.3	3.3		
14422 01	Gravel.....	do.	8.3	7.8	8.2	11.6	11.1	11.8		
	Run of pit or bank.....	do.	2.1	1.9	2.2	2.6	2.5	2.1		
	Washed, screened, or otherwise prepared.....	do.	6.2	5.9	6.0	9.0	8.6	9.7		
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.	11.4	11.1	11.3	8.3	8.0	6.7		
14420 00	West North Central Division.....	do.	74.5	71.8	80.1	69.0	65.8	64.7		
	Construction sand.....	do.	20.0	19.4	21.3	22.2	21.4	20.9		
	Run of pit or bank.....	do.	2.9	2.7	2.3	4.6	4.3	4.1		
	Washed, screened, ground, or otherwise prepared.....	do.	17.1	16.7	19.0	17.6	17.0	16.7		
	Gravel.....	do.	21.4	20.5	26.0	22.6	21.6	24.6		
	Run of pit or bank.....	do.	4.5	4.4	3.0	5.8	5.6	4.4		
	Washed, screened, or otherwise prepared.....	do.	16.9	16.1	23.0	16.7	16.0	20.2		
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.	33.1	31.9	32.8	24.3	22.9	19.2		
	Minnesota, total.....	do.	21.9	20.9	21.3	20.5	19.6	18.5		
	Construction sand.....	do.	4.8	4.5	3.8	6.1	5.7	4.8		
14422 01	Washed, screened, ground, or otherwise prepared.....	do.	3.9	3.6	3.5	5.1	4.7	4.1		
	Gravel.....	do.	5.6	5.1	6.0	9.2	8.9	9.0		
14421 05	Run of pit or bank.....	do.	1.0	.8	.7	2.2	2.2	1.6		
	Washed, screened, or otherwise prepared.....	do.	4.6	4.3	5.3	7.0	6.7	7.4		
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.	11.5	11.3	11.5	5.2	5.1	4.8		

See footnotes at end of table.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967—Continued

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967	
			Production	Shipments including interplant transfers		Production
				Quantity	Value (million dollars)	
1442 - --	CONSTRUCTION SAND AND GRAVEL--Continued					
	West North Central Division--Continued					
	Iowa, total.....	Mil. s. tons	12.4	12.1	15.3	13.3
14422 01	Construction sand.....	...do....	5.0	4.9	6.3	6.1
	Washed, screened, ground, or otherwise prepared.....	...do....	4.8	4.7	6.2	5.2
14422 05	Gravel.....	...do....	2.8	2.8	4.6	3.0
14420 00	Washed, screened, or otherwise prepared.....	...do....	2.1	2.1	4.0	2.3
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	4.6	4.4	4.4	4.2
14421 01	Missouri, total.....	...do....	10.6	10.2	12.4	8.1
14422 01	Construction sand.....	...do....	2.4	2.3	3.3	2.3
14421 05	Gravel.....	...do....	3.7	3.5	4.7	2.1
14422 05	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	4.5	4.4	4.4	3.7
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	5.1	5.0	5.0	4.9
	North Dakota, total.....	...do....	3.7	3.6	4.8	5.1
	South Dakota, total.....	...do....	2.1	1.9	2.7	2.7
	Nebraska, total.....	...do....	14.2	13.8	14.3	11.7
14421 01	Construction sand.....	...do....	3.5	3.4	3.5	2.8
14422 01	Gravel.....	...do....	5.6	5.4	5.8	3.9
14421 05	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	5.1	5.0	5.0	4.9
14422 05	Kansas, total.....	...do....	7.9	7.6	9.3	7.7
14420 00	Construction sand.....	...do....	3.6	3.6	3.7	3.9
14421 01	Run of pit or bank.....	...do....	.2	0.2	.2	1.3
14422 01	Washed, screened, ground, or otherwise prepared.....	...do....	3.4	3.4	3.5	2.6
14422 05	Gravel.....	...do....	1.8	1.6	3.0	1.3
14420 00	Washed, screened, or otherwise prepared.....	...do....	1.8	1.6	3.0	1.0
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	2.5	2.4	2.6	2.5
14421 01	South Atlantic Division, total.....	...do....	82.8	81.5	103.0	56.4
14422 01	Construction sand.....	...do....	34.8	34.6	35.1	28.0
14421 05	Run of pit or bank.....	...do....	3.4	3.4	3.4	5.2
14422 05	Washed, screened, or otherwise prepared.....	...do....	31.4	31.2	31.7	22.8
14420 00	Gravel.....	...do....	19.8	19.4	35.9	12.3
14421 05	Run of pit or bank.....	...do....	3.2	3.1	4.8	3.2
14422 05	Washed, screened, or otherwise prepared.....	...do....	16.6	16.3	31.1	9.1
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	28.2	27.5	32.0	16.2
	Delaware, total.....	...do....	2.3	2.3	2.5	1.9
14421 01	Maryland, total.....	...do....	15.2	14.5	22.5	14.2
14422 01	Construction sand.....	...do....	3.5	3.2	5.5	5.0
14421 05	Gravel.....	...do....	2.3	2.2	4.5	3.1
14422 05	Run of pit or bank.....	...do....	.5	.5	1.0	1.6
14420 00	Washed, screened, or otherwise prepared.....	...do....	1.8	1.7	3.5	1.5
14420 01	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	9.4	9.1	12.5	6.0
14421 01	Virginia, total.....	...do....	15.7	15.0	22.5	9.3
14422 01	Construction sand.....	...do....	4.4	4.2	6.6	1.7
14422 05	Gravel.....	...do....	3.9	3.7	8.6	3.0
14420 00	Washed, screened, or otherwise prepared.....	...do....	3.8	3.6	8.5	2.6
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	7.4	7.1	7.3	4.6
14421 01	North Carolina, total.....	...do....	8.7	8.6	12.2	6.4
14422 01	Georgia, total.....	...do....	8.2	8.1	9.0	6.2
14421 01	Florida, total.....	...do....	12.3	12.0	13.6	10.7
14422 01	Construction sand.....	...do....	9.3	9.0	8.4	8.5
	Run of pit or bank.....	...do....	1.6	1.5	1.5	2.8
14421 01	Washed, screened, ground, or otherwise prepared.....	...do....	7.7	7.5	6.9	5.7
14422 01						5.4

See footnotes at end of table.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967—Continued

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967			
			Production	Shipments including interplant transfers	Production	Shipments including interplant transfers		
				Quantity	(million dollars)	Quantity	(million dollars)	
CONSTRUCTION SAND AND GRAVEL--Continued								
1442- --	East South Central Division.	Mil. s. tons	41.8	40.4	53.8	30.9	29.8	35.6
14421 01	Construction sand.....	do.....	11.2	10.9	13.7	9.7	9.5	11.6
14422 01	Run of pit or bank.....	do.....	1.6	1.5	1.3	1.2	1.1	1.2
14421 05	Washed, screened, ground, or otherwise prepared.....	do.....	9.6	9.4	12.4	8.5	8.3	10.3
14422 05	Gravel.....	do.....	14.5	13.9	19.0	12.7	12.5	14.2
14420 00	Run of pit or bank.....	do.....	3.2	3.1	2.5	3.7	3.6	3.0
14421 05	Washed, screened, or otherwise prepared.....	do.....	11.3	10.8	16.5	9.0	8.9	11.0
14422 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	16.1	15.6	21.1	8.5	7.8	9.8
14421 01	Kentucky, total.....	do.....	7.5	7.0	9.0	7.4	7.1	8.2
14422 01	Construction sand.....	do.....	2.7	2.5	3.3	4.1	3.9	4.6
14421 05	Gravel.....	do.....	1.8	1.6	2.3	1.8	1.8	2.2
14422 05	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	3.0	2.9	3.4	1.5	1.4	1.4
14420 00	Tennessee, total.....	do.....	9.8	9.3	17.4	7.7	7.2	10.7
14421 01	Construction sand.....	do.....	3.5	3.4	5.1	2.3	2.2	3.2
14422 01	Gravel.....	do.....	2.9	2.7	4.4	3.0	2.8	3.5
14421 05	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	3.4	3.2	7.9	2.4	2.2	4.0
14422 05	Alabama, total.....	do.....	8.9	8.6	10.4	7.1	6.7	7.2
14421 01	Construction sand.....	do.....	1.7	1.7	1.8	1.7	1.7	1.9
14422 01	Gravel.....	do.....	2.6	2.6	3.7	2.3	2.3	2.4
14421 05	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	4.6	4.3	4.9	3.2	2.8	2.9
14422 05	Mississippi, total.....	do.....	14.4	14.3	16.8	8.7	8.7	9.4
14421 01	Construction sand.....	do.....	3.3	3.2	3.6	1.7	1.6	1.8
14422 01	Gravel.....	do.....	7.1	7.1	8.5	5.7	5.7	6.1
14421 05	Run of pit or bank.....	do.....	2.1	2.1	1.1	2.2	2.2	1.6
14422 05	Washed, screened, or otherwise prepared.....	do.....	5.0	5.0	7.4	3.5	3.5	4.5
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	4.0	4.0	4.7	1.3	1.3	1.5
West South Central Division, total.....								
14421 01	Construction sand.....	do.....	75.4	73.5	99.6	65.3	63.6	77.2
14422 01	Run of pit or bank.....	do.....	23.3	22.5	26.5	21.9	21.1	22.0
14421 05	Washed, screened, ground, or otherwise prepared.....	do.....	3.5	3.2	3.0	2.4	2.1	1.5
14422 05	Gravel.....	do.....	19.8	19.3	23.5	19.5	19.0	20.5
14420 00	Run of pit or bank.....	do.....	24.5	23.9	42.9	28.5	28.2	41.2
14421 05	Washed, screened, or otherwise prepared.....	do.....	2.9	2.8	3.6	2.2	2.2	2.2
14422 05	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	21.6	21.1	39.3	26.3	26.0	38.9
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	27.6	27.1	30.2	14.8	14.3	14.1
Arkansas, total.....								
14421 01	Construction sand.....	do.....	7.5	7.2	8.4	8.5	8.1	9.1
14422 01	Gravel.....	do.....	3.4	3.4	2.8	2.5	2.5	2.6
14421 05	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	1.7	1.6	2.7	4.1	4.0	5.2
14422 05	Arkansas, total.....	do.....	2.4	2.2	2.9	1.8	1.6	1.3
14420 00	Louisiana, total.....	do.....	16.6	16.3	23.6	16.0	15.9	21.4
14422 01	Construction sand.....	do.....	3.4	3.3	4.9	4.4	4.4	5.1
14421 05	Washed, screened, ground, or otherwise prepared.....	do.....	.7	0.7	1.0	3.7	3.7	4.5
14422 05	Gravel.....	do.....	5.1	5.0	9.9	7.7	7.7	12.7
14420 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	8.1	8.0	8.8	3.8	3.8	3.6
Oklahoma, total.....								
14421 01	Construction sand.....	do.....	5.2	4.9	6.1	3.9	3.6	3.1
14422 01	Gravel.....	do.....	3.1	2.9	3.4	2.1	1.9	1.6
14421 05	Oklahoma, total.....	do.....	2.4	2.2	2.9	1.8	1.6	1.3
14422 05	Texas, total.....	do.....	43.8	43.0	61.4	36.9	36.0	43.6
14420 00	Construction sand.....	do.....	13.3	12.9	15.5	12.9	12.3	12.7
14421 01	Washed, screened, ground, or otherwise prepared.....	do.....	11.3	11.0	13.8	11.8	11.4	12.1
14422 05	Gravel.....	do.....	17.0	16.8	29.7	15.9	15.8	22.5
14420 00	Washed, screened, or otherwise prepared.....	do.....	15.2	15.0	27.4	14.9	14.8	21.7
14421 05	Construction sand and gravel, n.s.k. <sup>1</sup> .....	do.....	13.5	13.3	16.2	8.0	7.9	8.3

See footnotes at end of table.

## TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967—Continued

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967			
			Production	Shipments including interplant transfers		Production		
				Quantity	Value (million dollars)			
CONSTRUCTION SAND AND GRAVEL--Continued								
1442 - --	Mountain Division, total.....	Mil. s. tons	39.9	38.5	52.1	27.9	24.9	28.4
14422 01	Construction sand.....	...do....	5.2	5.1	9.0	4.9	4.9	5.7
	Washed, screened, ground, or otherwise prepared.....	...do....	4.9	4.8	8.3	4.6	4.5	5.3
14421 05	Gravel.....	...do....	13.7	13.3	18.2	7.8	7.5	9.5
14422 05	Run of pit or bank.....	...do....	2.9	2.9	3.4	1.1	1.2	1.0
14420 00	Washed, screened, or otherwise prepared.....	...do....	10.8	10.4	14.8	6.7	6.4	8.5
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	21.0	20.1	24.9	15.2	12.4	13.2
	Montana, total.....	...do....	1.4	1.3	1.7	1.7	1.6	1.7
	Idaho, total.....	...do....	2.5	2.2	3.8	1.4	1.0	1.6
14421 01	Colorado, total.....	...do....	12.3	12.2	17.9	7.5	7.5	9.1
14422 01	Construction sand.....	...do....	2.7	2.6	4.3	2.3	2.2	2.2
14421 05	Gravel.....	...do....	7.0	7.0	10.0	3.2	3.2	4.8
14422 05	Run of pit or bank.....	...do....	5.6	5.2	6.8	4.0	4.0	3.8
14421 00	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	2.6	2.6	3.6	2.0	1.9	2.1
	New Mexico, total.....	...do....	2.3	2.1	3.4	2.1	1.9	2.4
	Arizona, total.....	...do....	12.1	11.3	15.2	8.2	6.6	7.4
	Utah, total.....	...do....	3.7	3.4	4.3	3.2	2.8	2.3
	Nevada, total.....	...do....	4.0	3.9	4.7	3.2	3.1	3.4
	Pacific Division, total.....	...do....	103.5	101.1	135.4	99.8	96.9	108.8
14421 01	Construction sand.....	...do....	37.7	37.4	43.4	32.7	32.5	35.4
14422 01	Run of pit or bank.....	...do....	3.6	3.5	3.9	3.9	3.8	3.8
	Washed, screened, ground, or otherwise prepared.....	...do....	34.1	33.9	39.5	28.9	28.7	31.6
14421 05	Gravel.....	...do....	37.7	37.2	55.7	46.6	46.6	51.7
14422 05	Run of pit or bank.....	...do....	5.6	5.2	6.8	4.0	4.0	3.8
14420 00	Washed, screened, or otherwise prepared.....	...do....	32.1	32.0	48.9	42.6	42.7	48.0
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	28.1	26.5	36.3	20.5	17.8	21.7
	Washington, total.....	...do....	12.4	12.2	16.4	16.0	15.8	17.2
14422 01	Construction sand.....	...do....	3.2	3.2	3.8	4.0	4.0	4.2
	Washed, screened, ground, or otherwise prepared.....	...do....	3.0	3.0	3.6	3.1	3.1	3.4
14422 05	Gravel.....	...do....	6.1	6.1	8.3	7.6	7.6	7.7
14420 00	Washed, screened, or otherwise prepared.....	...do....	4.8	4.8	6.9	6.4	6.4	6.8
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	3.1	2.9	4.3	4.4	4.2	5.3
	California, total.....	...do....	79.1	77.7	100.8	72.3	70.5	77.5
14421 01	Construction sand.....	...do....	33.6	33.4	38.5	26.6	26.4	28.0
14422 01	Run of pit or bank.....	...do....	3.1	3.1	3.5	2.0	2.0	1.7
	Washed, screened, ground, or otherwise prepared.....	...do....	30.5	30.3	35.0	24.5	24.4	26.3
14421 05	Gravel.....	...do....	27.1	27.1	38.6	34.2	34.3	37.9
14422 05	Run of pit or bank.....	...do....	3.2	3.2	4.3	2.2	2.2	2.1
14420 00	Washed, screened, or otherwise prepared.....	...do....	23.9	23.9	34.3	32.0	32.1	35.8
	Construction sand and gravel, n.s.k. <sup>1</sup> .....	...do....	18.4	17.2	23.7	11.5	9.8	11.7
1446 - --	INDUSTRIAL SAND							
14461 01	United States, total.....	...do....	29.9	29.7	122.8	24.8	24.6	90.7
14465 01	Glass sand.....	...do....	12.0	12.0	49.0	9.5	9.5	34.0
14469 01	Molding sand.....	...do....	9.4	9.3	29.6	8.5	8.4	27.8
14460 00	Industrial sand, n.e.c.....	...do....	8.5	8.4	35.4	6.8	6.6	29.0
	Industrial sand, n.s.k. <sup>3</sup> .....	...do....	(X)	(X)	8.7	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
	New England Division, total <sup>2</sup> .....	Mil. s. tons.	.2	.2	1.4	.2	.2	1.4
14465 01	Middle Atlantic Division, total <sup>2</sup> .....	...do....	5.3	5.3	22.9	4.7	4.7	18.1
	Molding sand.....	...do....	.6	.6	2.9	1.6	1.6	6.2
14461 01	East North Central Division, total <sup>2</sup> .....	...do....	12.7	12.7	41.9	10.1	10.1	32.7
14465 01	Glass sand.....	...do....	3.7	3.7	13.4	3.2	3.2	9.3
14469 01	Molding sand.....	...do....	6.9	6.9	19.8	5.3	5.3	16.5
14460 00	Industrial sand, n.e.c.....	...do....	2.1	2.1	7.7	1.5	1.5	6.9
	Industrial sand, n.s.k. <sup>3</sup> .....	...do....	(X)	(X)	1.0	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

See footnotes at end of table.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967—Continued

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972			1967		
			Production	Shipments including interplant transfers		Production	Shipments including interplant transfers	
				Quantity	Value (million dollars)		Quantity	Value (million dollars)
1446- -- INDUSTRIAL SAND--Continued								
	East North Central Division--Continued							
	Ohio, total <sup>2</sup> .....	Mil. s. tons.	1.4	1.3	6.9	1.5	1.4	5.9
14465 01	Molding sand.....	...do....	.5	.5	2.2	.7	.7	2.7
14465 01	Illinois, total <sup>2</sup> .....	...do....	7.3	7.3	19.9	4.0	4.0	15.0
	Molding sand.....	...do....	4.2	4.2	8.9	1.1	1.1	5.3
	Michigan, total <sup>2</sup> .....	...do....	2.7	2.7	9.5	3.1	3.1	7.9
14461 01	West North Central Division, total <sup>2</sup> .....	...do....	1.9	1.8	8.0	1.5	1.4	5.1
14465 01	Glass sand.....	...do....	.9	.9	2.9	.7	.7	1.7
14465 01	Molding sand.....	...do....	.3	.3	1.3	.3	.3	.9
14469 01	Industrial sand, n.e.c. ....	...do....	.7	.6	3.6	.5	.4	2.5
14460 00	Industrial sand, n.s.k. <sup>3</sup> .....	.....	(X)	(X)	.2	(3)	(3)	(3)
	South Atlantic Division, total <sup>2</sup> .....	Mil. s. tons.	4.8	4.7	20.3	2.7	2.7	11.6
14461 01	Glass sand.....	...do....	2.4	2.3	9.4	1.6	1.5	6.3
14465 01	Molding sand.....	...do....	.4	.4	1.4	.2	.2	.6
14460 00	Industrial sand, n.e.c. ....	.....	2.1	2.1	9.2	1.0	1.0	4.7
14469 01	Industrial sand, n.s.k. <sup>3</sup> .....	.....	(X)	(X)	.3	(3)	(3)	(3)
	Maryland, total <sup>2</sup> .....	Mil. s. tons.	1.1	1.0	2.4	.4	.3	1.2
	East South Central Division, total <sup>2</sup> .....	...do....	1.1	1.1	5.0	1.1	1.1	3.4
14461 01	West South Central Division, total <sup>2</sup> .....	...do....	1.9	1.9	10.6	2.3	2.3	9.0
14665 01	Glass sand.....	...do....	.7	.7	2.5	.6	.6	1.8
14469 01	Molding sand.....	...do....	.4	.4	1.6	.4	.4	1.1
14460 00	Industrial sand, n.e.c. ....	...do....	.8	.8	5.7	1.4	1.4	6.0
	Industrial sand, n.s.k. <sup>3</sup> .....	.....	(X)	(X)	.8	(3)	(3)	(3)
	Texas, total <sup>2</sup> .....	Mil. s. tons.	.7	.7	4.9	1.0	1.0	4.2
	Mountain Division, total <sup>2</sup> .....	...do....	.4	.4	2.2	.4	.5	1.7
14461 01	Pacific Division, total <sup>2</sup> .....	...do....	1.6	1.6	10.5	1.6	1.6	7.9
	Glass sand.....	...do....	1.4	1.4	7.0	1.1	1.1	5.3

(X) Not applicable. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

<sup>1</sup>Figures include construction sand and gravel for establishments which did not report detailed products. Also included are estimates for administrative records (establishments with less than 5 employees) which accounted for approximately 5 percent of the U.S. total. Also included are construction sand and gravel shipments by establishments classified in the manufacturing industries.<sup>2</sup>For 1972, includes value but excludes quantities for industrial sand, n.s.k.<sup>3</sup>Includes value of products for establishments which did not report detailed products or were not mailed report forms. Also, included are industrial sand shipments by establishments classified in manufactures. For 1967, these data were allocated to reported product categories.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
<b>INDUSTRY 1442.--CONSTRUCTION SAND AND GRAVEL</b>						
	Selected supplies, minerals received for preparation and purchased machinery installed, total.....	.....	(X)	233.4	(X)	159.9
144211 353011	Sand and gravel received for preparation.....	Mil. s. tons..	16.2	18.2	12.7	9.7
	Purchased machinery installed.....	.....	(X)	62.6	(X)	53.9
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	(NA)	.9	(NA)	1.0
289212	Ammonium nitrate.....	...do.....	(NA)	.3	2,080.7	.1
289214	Blasting accessories.....	.....	(X)	.1	(X)	.1
331201	Steel mill shapes and forms.....	1,000 s. tons..	(X)	13.0	(NA)	5.5
300167	Rubber and plastic products, including tires and tubes.....	.....	(X)	4.9	(X)	2.3
970099	All other supplies.....	.....	(X)	78.9	(X)	54.7
974000	Undistributed supplies <sup>1</sup> .....	.....	(X)	54.5	(X)	32.6
<b>INDUSTRY 1446.--INDUSTRIAL SAND</b>						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	34.6	(X)	21.8
144211 353011	Sand and gravel received for preparation.....	Mil. s. tons..	.6	.9	1.2	1.2
	Purchased machinery installed.....	.....	(X)	12.6	(X)	8.1
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	(NA)	.3	1,531.9	.2
289212	Ammonium nitrate.....	...do.....	3,264.2	.2	3,950.3	.2
289214	Blasting accessories.....	.....	(X)	.1	(X)	(Z)
331201	Steel mill shapes and forms.....	.....	(X)	1.8	(NA)	.8
300167	Rubber and plastic products, including tires and tubes.....	.....	(X)	.5	(X)	.2
970099	All other supplies.....	.....	(X)	16.7	(X)	9.2
974000	Undistributed supplies <sup>1</sup> .....	.....	(X)	1.5	(X)	1.9

(X) Not applicable. (NA) Not available. (Z) Less than half of the unit of measurement shown.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1442, these small establishments accounted for less than 5 percent of value added. In industry 1446, they accounted for less than 2 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.



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## Bentonite, SIC 1452

The Bentonite Industry includes establishments primarily engaged in mining, milling, or otherwise preparing bentonite. Establishments engaged in preparing bentonite which do not include a mine are classified in the manufacturing industry 3295, Minerals and Earths, Ground or Otherwise Treated.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Bentonite Industry amounted to \$31 million, an increase of 47 percent compared with 1967. Value added in mining amounted to \$20 million in 1972, an increase of 51 percent from 1967. In 1972, average employment in the industry registered no change from the 1967 total of 0.9 thousand employees.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1452.--BENTONITE											
1972 .....	37	18	0.9	8.2	0.6	1.4	4.9	19.9	13.0	31.1	1.9
1967 .....	32	16	.9	5.4	.6	1.4	3.4	13.2	8.8	21.2	.9
1963 .....	44	16	.8	4.1	.6	1.5	3.1	11.4	8.0	18.1	1.4
1958 .....	41	15	.7	2.9	.5	1.1	2.0	12.2	5.7	16.8	1.1
1954 .....	43	16	.6	2.1	.6	1.3	1.9	16.4	6.1	21.8	.6

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of industry shipments and receipts (million dollars)	Capital expenditures, new (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)					(1,000)	(million dollars)
INDUSTRY 1452.--BENTONITE													
United States, total.	37	18	0.9	8.2	0.6	1.4	4.9	19.9	13.0	31.1	1.9	0.9	13.2
West Region.....	19	9	.5	3.9	.3	.7	2.8	11.8	6.4	17.4	.8	.4	8.3

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product	Unit of measure	1972		1967	
			Quantity	Value (million dollars)	Quantity	Value (million dollars)
UNITED STATES						
1452- --	Bentonite, total.....	.....	(X)	30.9	(X)	20.1
14521 01	Crude bentonite shipments.....	1,000 s. tons.	465.8	2.6	362.6	1.7
14522 01	Prepared bentonite shipped, including interplant transfers, total.....	...do.....	(NA)	(NA)	(NA)	(NA)
	Prepared in the mineral industries.....	...do.....	2,267.3	28.3	1,611.3	18.4
	Prepared in other industries.....	...do.....	(NA)	(NA)	(NA)	(NA)
WEST REGION						
1452- --	Bentonite.....	.....	(X)	18.6	(X)	12.5

(X) Not applicable. (NA) Not available.

**TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967**

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1452.--BENTONITE						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	9.1	(X)	5.4
145091	Minerals for preparation:					
	Mined and prepared at the same establishment.....	1,000 s. tons.	2,528.7	(X)	2,207.7	(X)
	Received from other establishments.....	do.....	231.3	.6	-	-
353011	Purchased machinery installed.....	.....	(X)	.7	(X)	.6
970099	Supplies used:					
	All other supplies used.....	.....	(X)	6.2	{(X)}	4.7
974000	Undistributed supplies <sup>1</sup> .....	.....	(X)	1.6		

- Represents zero. (X) Not applicable.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

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In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1452, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

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## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

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Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

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In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**  
INDUSTRY SERIES

IC72(P)-14C-2  
Issued February 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**Fire Clay, SIC 1453**

The Fire Clay Industry includes establishments primarily engaged in mining, milling, or otherwise preparing fire clay, including stoneware clay and diaspore. Establishments producing fire clay as a principal product in conjunction with the manufacture of cement or clay refractory or pottery products are classified in Major Group 32, "Stone, Clay, Glass, and Concrete Products."

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Fire Clay Industry amounted to \$20 million, a decrease of 13 percent compared with 1967. Value added in mining amounted to \$15 million in 1972, a decrease of 17 percent from 1967. Average employment in the industry showed a decrease of 38 percent from 1967 to a total of 0.5 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1453.--FIRE CLAY											
1972 .....	81	6	0.5	4.1	0.5	0.9	3.2	15.3	5.9	20.1	1.1
1967 .....	99	12	.8	5.1	.7	1.4	4.2	18.5	6.2	23.1	1.5
1963 .....	155	14	1.0	4.6	.9	1.6	3.8	12.6	6.6	17.1	2.2
1958 .....	182	19	1.5	6.0	1.3	2.2	5.0	14.5	6.2	18.6	2.1
1954 .....	248	29	2.0	6.6	1.8	3.1	5.7	17.5	6.1	22.2	1.3

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972									1967	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of industry shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
United States, total.	81	6	0.5	4.1	0.5	0.9	3.2	15.3	5.9	20.1	1.1
Middle Atlantic Division.	24	-	.1	.6	.1	.1	.5	3.8	.8	4.4	.2
North Central Region.....	28	3	.2	1.9	.2	.4	1.4	6.6	2.0	8.3	.3
South Region.....	18	3	.2	1.1	.2	.3	.9	3.2	2.2	4.9	.5
West Region.....	11	-	.1	.5	(Z)	.1	.4	1.6	.9	2.5	.1

- Represents zero. (Z) Less than one-half of the unit of measure specified.

## TABLE 3. Primary Products of the Industry, by Geographic Areas: 1967 and 1972

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967	
			Quantity (million dollars)	Value (million dollars)	Quantity (million dollars)	Value (million dollars)
UNITED STATES						
1453- --	FIRE CLAY, TOTAL.....	.....	(X)	18.7	(X)	22.2
14531 01	Crude fire clay mined and used in the same establishment in making clay products <sup>1</sup> .....	1,000 s. tons..	844.7	(X)	1,392.4	(X)
14532 01	Crude fire clay.....	...do.....	2,004.8	10.8	2,097.2	16.2
	Prepared fire clay.....	...do.....	596.9	7.9	826.7	6.0
MIDDLE ATLANTIC DIVISION						
14531 01	Crude fire clay.....	...do.....	627.9	4.0	477.7	5.0
14532 01	Prepared fire clay.....	...do.....	10.7	.2	49.1	.4
NORTH CENTRAL REGION						
14531 01	Crude fire clay.....	...do.....	638.6	4.4	988.3	7.7
14532 01	Prepared fire clay.....	...do.....	177.6	3.5	547.1	3.5
SOUTH REGION						
14531 01	Crude fire clay.....	...do.....	148.2	.5	551.3	4.5
14532 01	Prepared fire clay.....	...do.....	308.5	3.9		
14531 01	East South Central—crude fire clay.....	...do.....	48.0	.2	126.2	1.5
WEST REGION						
14531 01	Crude fire clay.....	...do.....	590.1	2.0	310.4	1.1
14532 01	Prepared fire clay.....	...do.....	100.0	.4		
14531 01	California—crude and prepared fire clay.....	...do.....	457.7	1.8	217.5	.6

(X) Not applicable.

<sup>1</sup>Represents quantity of crude fire clay mined and used at establishments classified in the manufacturing industries.

## TABLE 4. Selected Supplies, Minerals Received for Preparation and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967			
			Quantity (million dollars)	Cost (million dollars)	Quantity (million dollars)	Cost (million dollars)		
INDUSTRY 1453--FIRE CLAY								
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	4.2	(X)	3.9		
145091	Minerals for preparation:							
	Mined and prepared at the same establishment.....	1,000 s. tons..	417.6	(X)	761.5	(X)		
	Received from other establishments.....	...do.....	27.8	(Z)	-	-		
353011	Purchased machinery installed.....	.....	(X)	.6	(X)	.8		
Supplies used:								
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	(X)	(Z)	(X)	.2		
289212	Ammonium nitrate.....	...do.....						
289214	Blasting accessories.....	.....						
331201	Steel mill shapes and forms.....	1,000 s. tons..	(X)	.6	(X)	2.9		
970099	All other supplies.....	.....	(X)	3.0				
974000	Undistributed supplies <sup>1</sup> .....	.....						

- Represents zero. (X) Not applicable. (Z) Less than one-half of the unit of measurement shown.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data, and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1453, these small establishments accounted for less than 6 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

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In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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Issued February 1974

**Fuller's Earth, SIC 1454**

The Fuller's Earth Industry includes establishments primarily engaged in mining, milling, or otherwise preparing fuller's earth.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the

SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Fuller's Earth Industry amounted to \$26 million, an increase of 18 percent compared with 1967. Value added in mining amounted to \$18 million in 1972, an increase of 16 percent from 1967. Average employment in the industry showed an increase of 9 percent from 1967 to a total of 1.2 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of sup- plies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1454.--FULLER'S EARTH											
1972 .....	14	11	1.2	7.8	1.1	2.4	6.6	18.1	12.4	26.5	4.0
1967 .....	16	11	1.1	5.1	1.0	2.0	4.1	15.6	11.0	22.5	4.1
1963 .....	15	9	.8	3.1	.7	1.4	2.4	9.1	5.1	13.0	1.2
1958 .....	14	6	.7	2.4	.5	1.1	1.7	6.0	3.3	8.7	.6
1954 .....	16	6	.6	1.7	.5	1.1	1.4	4.2	2.4	6.0	.5

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Geographic data withheld to avoid disclosing figures for individual companies)

**TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967**

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	Shipments including interplant transfers			
			1972		1967	
			Quantity	Value (million dollars)	Quantity	Value (million dollars)
14540 00	UNITED STATES Fuller's Earth.....	1,000 s. tons.	919.8	26.3	761.2	19.7

**TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967**

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1454.--FULLER'S EARTH						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	8.0	(X)	7.8
145091 353011	Minerals mined and prepared at the same establishment.....	1,000 s. tons..	1,691.8	(X)	1,257.5	(X)
	Purchased machinery installed.....	.....	(X)	3.7	(X)	4.5
289211 289212 289214 331201 970099	Supplies used: Explosive materials, except ammonium nitrate..... Ammonium nitrate..... Blasting accessories..... Steel mill shapes and forms..... All other supplies.....	1,000 lb..... do..... ..... ..... .....	{(X)}	4.3	(X)	3.3
974000	Undistributed supplies <sup>1</sup> .....	.....				

(X) Not applicable.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1454, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

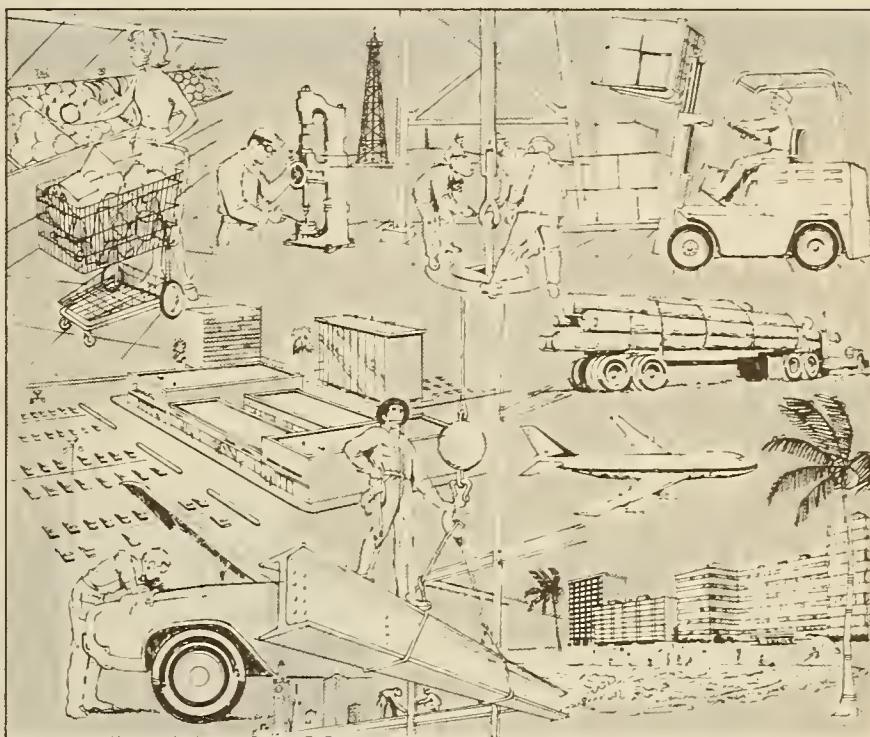
**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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MIC72(P)-14C-4  
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**Kaolin and Ball Clay, SIC 1455**

The Kaolin and Ball Clay Industry includes establishments primarily engaged in mining, milling, or otherwise preparing kaolin or ball clay, including china clay, paper clay, and slip clay.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the

SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Kaolin and Ball Clay Industry amounted to \$136 million, an increase of 54 percent compared with 1967. Value added in mining amounted to \$93 million in 1972, an increase of 42 percent from 1967. Average employment in the industry showed an increase of 5 percent from 1967 to a total of 3.9 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of sup- plies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1455.--KAOLIN AND BALL CLAY											
1972 .....	49	28	3.9	34.3	3.0	6.6	24.2	92.7	58.6	135.7	15.6
1967 .....	63	34	3.7	24.1	2.9	6.4	16.7	65.1	34.4	87.9	11.6
1963 .....	48	28	3.3	17.7	2.9	6.1	14.5	49.8	21.5	66.1	5.2
1958 .....	53	26	3.4	14.0	2.7	5.7	9.7	31.0	15.6	42.4	4.2
1954 .....	54	28	3.1	9.9	2.8	6.2	8.1	25.2	10.9	31.9	4.3

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expendi- tures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man- hours (millions)	Wages (million dollars)						
	INDUSTRY 1455.--KAOLIN AND BALL CLAY												
United States, total.	49	28	3.9	34.3	3.0	6.6	24.2	92.7	58.6	135.7	15.6	3.7	65.1
Georgia.....	25	14	3.1	27.9	2.4	5.5	20.6	80.9	52.6	119.1	14.5	2.5	51.0

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967	
			Quantity	Value	Quantity	Value
			(million dollars)	(million dollars)		
UNITED STATES						
1455- --	KAOLIN AND BALL CLAY, TOTAL.....	.....	(X)	133.1	(X)	88.7
14551 01	Crude kaolin and ball clay net shipments <sup>1</sup> .....	1,000 s. tons..	804.6	5.1	415.3	3.1
14552 01	Prepared kaolin and ball clay shipped, including interplant transfers.....	do.....	4,288.5	128.0	4,087.2	85.6
SOUTH ATLANTIC DIVISION						
14551 01	Crude kaolin and ball clay net shipments <sup>1</sup> .....	do.....	696.2	3.5	(NA)	(NA)
14552 01	Prepared kaolin and ball clay shipped, including interplant transfers.....	do.....	3,886.2	121.8	3,456.5	76.3
Georgia						
14551 01	Crude kaolin and ball clay net shipments <sup>1</sup> .....	do.....	696.2	3.5	3,144.6	68.7
14552 01	Prepared kaolin and ball clay shipped, including interplant transfers.....	do.....	3,361.5	112.9		

(X) Not applicable. (NA) Not available.

<sup>1</sup>Represents gross shipments less receipts from other establishments of crude materials for preparation.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1455.--KAOLIN AND BALL CLAY						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	39.5	(X)	25.1
145091	Minerals for preparation:					
	Mined and prepared at the same establishment.....	1,000 s. tons..	6,545.1	(X)	5,862.3	(X)
	Received for preparation.....	do.....	141.0	.6	43.7	.2
353011	Purchased machinery installed.....	.....	(X)	13.0	(X)	10.1
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	(X)	1.1	355.6	.1
289212	Ammonium nitrate.....	do.....				
289214	Blasting accessories.....	.....				
331201	Steel mill shapes and forms.....	.....				
970099	All other supplies.....	.....	(X)	23.2	(X)	14.8
974000	Undistributed supplies <sup>1</sup> .....	.....	(X)	1.6	(X)	

(X) Not applicable.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1455, these small establishments accounted for less than 1 percent of value added.

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exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

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(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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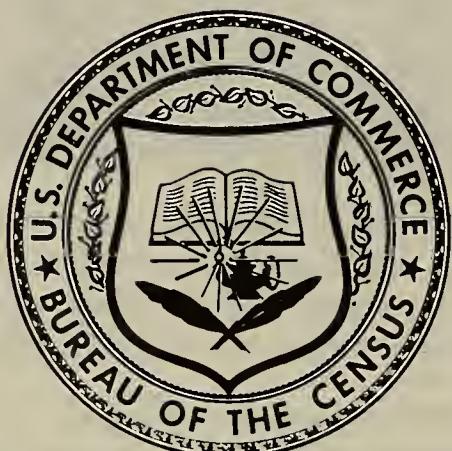
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PRELIMINARY REPORT

# 1972 CENSUS OF MINERAL INDUSTRIES

INDUSTRY SERIES

MC72(P)-14C-5

Issued April 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

## Clay and Related Minerals, N.E.C., SIC 1459

The Clay and Related Minerals, N.E.C. Industry includes establishments primarily engaged in mining, milling, or otherwise preparing clay, ceramic, and refractory minerals, not elsewhere classified, such as common clay and shale.

Establishments producing common clay and shale in conjunction with the manufacture of structural clay products are classified in major group 32, Stone, Clay, Glass, and Concrete Products. In 1972, such combination mining and manufacturing establishments were included in the following manufacturing industries: 3241, Cement, Hydraulic; 3251, Brick and Structural Clay Tile; 3253, Ceramic Wall and Floor Tile; and 3259, Structural Clay Products, Not Elsewhere Classified.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972

edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC Manual were changed by combining industries 1456, Feldspar, and 1459, Clay, Ceramic, and Refractory Minerals, Not Elsewhere Classified, of the 1967 edition of the SIC Manual.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Clay, and Related Minerals N.E.C., Industry amounted to \$81 million, an increase of 27 percent compared with 1967. Value added in mining amounted to \$53 million in 1972, an increase of 25 percent from 1967. Average employment in the industry showed a decrease of 7 percent from 1967 to a total of 2.6 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1459.--CLAY AND RELATED MINERALS, N.E.C.											
1972 .....	129	47	2.6	24.0	2.1	4.9	18.0	52.9	34.6	80.8	6.7
1967 .....	146	48	2.8	18.0	2.4	5.3	14.5	42.3	27.3	63.5	6.0
1963 .....	161	44	2.5	13.3	2.1	4.5	10.2	30.6	21.5	47.4	4.7
1958 .....	200	46	2.6	10.8	2.2	4.7	8.5	23.6	17.8	36.2	5.3
1954 <sup>1</sup> .....	271	32	1.9	6.1	1.8	3.6	5.4	15.2	8.9	21.9	2.3

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry (former industries 1456, Feldspar, and 1459, Clay and related minerals, n.e.c.).

<sup>1</sup>For 1954, excludes data for associated magnesite calcining operations.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of industry shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1459.--CLAY AND RELATED MINERALS, N.E.C.													
United States, total.	129	47	2.6	24.0	2.1	4.9	18.0	52.9	34.6	80.8	6.7	2.8	42.3
Northeast Region.....	19	3	.2	1.8	.1	.3	1.4	2.9	2.9	5.3	.4	(NA)	(NA)
Pennsylvania.....	9	-	(Z)	.3	(Z)	(Z)	.2	.6	.4	.9	.2	(NA)	(NA)
East North Central Div...	16	4	.3	2.9	.2	.6	2.4	5.1	4.2	8.3	.9	(NA)	(NA)
Ohio.....	11	2	.1	1.1	.1	.2	.8	2.2	1.6	3.3	.5	(NA)	(NA)
West North Central Div...	21	5	.2	1.7	.2	.4	1.5	3.8	2.4	5.8	.3	(NA)	(NA)
South Atlantic Division..	19	11	.5	4.4	.5	1.1	3.4	13.1	8.6	20.2	1.6	.8	10.8
North Carolina.....	6	2	.2	1.3	.1	.3	1.0	3.5	3.0	5.9	.5	(NA)	(NA)
East South Central Div...	12	7	.3	2.6	.3	.6	1.8	7.5	4.7	10.6	1.6	(NA)	(NA)
Tennessee.....	4	2	.1	.9	.1	.2	.8	2.1	1.8	3.3	.6	(NA)	(NA)
West South Central Div...	11	6	.3	2.7	.3	.6	1.7	6.5	3.9	9.6	.9	(NA)	(NA)
West Region.....	31	11	.7	7.8	.6	1.3	5.5	15.4	7.7	22.2	.9	(NA)	(NA)
California.....	15	6	.3	3.6	.2	.4	2.1	6.3	3.0	8.6	.6	(NA)	(NA)

- Represents zero.

(NA) Not available.

(Z) Less than half of the unit of measurement shown.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	Shipments including interplant transfers			
			1972		1967	
			Quantity	Value (million dollars)	Quantity	Value (million dollars)
1459- --	CLAY, CERAMIC, AND RELATED MINERALS, N.E.C., (INCLUDING FELDSPAR), TOTAL.....	.....	(X)	82.7	(X)	64.2
14591 11	Crude feldspar shipped.....	1,000 s tons..	665.0	8.6	38.8	.2
14592 11	Prepared feldspar shipped.....	...do.....			635.2	8.8
14590 01	Crude common clay and shale mined and used in the same establishment in making cement and clay products <sup>1</sup> .....	...do.....	21,469.7	(X)	20,439.6	(X)
14591 21	Crude common clay and shale.....	...do.....	2,459.9	4.4	1,600.7	2.9
14590 01	Prepared common clay and shale.....	...do.....	4,848.2	31.2	6,436.8	33.2
14591 21	Other clay, ceramic, and refractory minerals:					
14591 23	Crude.....	...do.....	317.6	2.1	206.6	1.5
14592 23	Prepared (including magnesite and brucite).....	...do.....	1,762.6	30.9	1,119.3	17.6
14590 00	Clay, ceramic, and related minerals, n.e.c., n.s.k.....	.....	(X)	5.5	(X)	-
	MIDDLE ATLANTIC DIVISION					
14590 01	Crude common clay and shale.....	1,000 s tons..	367.4	.8	453.9	1.0
14591 21						
	EAST NORTH CENTRAL DIVISION					
14590 01	Crude common clay and shale.....	...do.....	924.0	1.5	673.9	1.1
14591 21	Prepared common clay and shale.....	...do.....	1,130.5	6.8	1,383.5	7.4
	WEST NORTH CENTRAL DIVISION					
14590 01	Crude common clay and shale.....	...do.....	246.9	.5	168.4	.3
14591 21	Prepared common clay and shale.....	...do.....	560.1	4.2	612.2	3.0
	SOUTH ATLANTIC DIVISION					
14592 23	Prepared clay, ceramic, and refractory minerals, other than common clay and shale.....	...do.....	395.4	9.3	451.0	6.3
	EAST SOUTH CENTRAL DIVISION					
14592 21	Prepared common clay and shale.....	...do.....	373.5	2.4	675.4	3.7
	WEST SOUTH CENTRAL DIVISION					
14592 21	Prepared common clay and shale.....	...do.....	1,188.1	6.8	1,215.8	6.9
	PACIFIC DIVISION					
14592 21	Prepared common clay and shale.....	...do.....	562.2	3.9	1,011.8	5.2

<sup>-</sup> Represents zero. (X) Not applicable.<sup>1</sup>Represents the production of crude common clay and shale by establishments classified in manufacturing industries. Establishments with less than 10 employees were excluded.

**TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967**

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1459.--CLAY AND RELATED MINERALS, N.E.C.						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	20.1	(X)	15.2
145091	Minerals for preparation:					
	Mined and prepared at the same establishment.....	1,000 s. tons.	8,996.8	(X)	9,870.8	(X)
	Received from other establishments.....	...do.....	434.4	.6		(1)
353011	Purchased machinery installed.....	.....	(X)	4.6	(X)	4.9
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	655.1	.2	302.7	2.1
289212	Ammonium nitrate.....	...do.....	723.5	(2)	976.2	2(Z)
289214	Blasting accessories.....	.....	(X)	.1	(X)	2(Z)
331201	Steel mill shapes and forms.....	.....	(X)	1.4	(X)	2.5
970099	All other supplies.....	.....	(X)	8.8		
974000	Undistributed supplies <sup>4</sup> .....	.....	(X)	4.4	(X)	1 39.6

(X) Not applicable. (Z) Less than half of the unit of measurement shown.

<sup>1</sup>For 1967, the cost of minerals received for preparation is included with the cost of all other supplies.<sup>2</sup>Excludes statistics for 1967 industry 1456, Feldspar. See text for statement of change in industry classification.<sup>3</sup>Includes "supplies used" data for 1967 industry 1456, Feldspar.<sup>4</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

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(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**  
INDUSTRY SERIES

C72(P)-14D-1  
sued March 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**Barite, SIC 1472**

The Barite Industry includes establishments primarily engaged in mining, milling, grinding, or otherwise preparing crude barite.

Establishments primarily engaged in grinding barite which do not include a mine are classified in the manufacturing industry 3295.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Barite Industry amounted to \$22 million, an increase of 10 percent compared with 1967. Value added in mining amounted to \$19 million in 1972, an increase of 22 percent from 1967. Average employment in the industry showed a decrease of 11 percent from 1967 to a total of 0.8 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of sup- plies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1472.--BARITE											
1972 .....	27	12	0.8	5.4	0.7	1.4	4.5	18.7	4.4	21.6	1.5
1967 .....	30	10	.9	4.7	.8	1.6	3.9	15.3	5.6	19.6	1.2
1963 .....	54	13	1.4	6.8	.9	1.9	3.6	11.1	6.7	16.7	1.1
1958 .....	53	8	1.2	5.2	.8	1.6	2.7	11.3	3.4	13.8	1.0
1954 .....	44	11	1.1	3.9	1.0	2.4	3.5	14.1	5.2	18.3	1.0

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expendi- tures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man- hours (millions)	Wages (million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1472.--BARITE													
United States, total.	27	12	0.8	5.4	0.7	1.4	4.5	18.7	4.4	21.6	1.5	0.9	15.3
South Region.....	12	6	.4	3.1	.3	.8	2.5	8.8	3.2	11.2	.8	.4	6.6

## TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972			1967		
			Production	Shipments including interplant transfers		Production	Shipments including interplant transfers	
				Quantity	Value (million dollars)		Quantity	Value (million dollars)
1472- --	BARITE, TOTAL.....	.....	(X)	(X)	20.0	(X)	(X)	19.5
	UNITED STATES							
14721 01	Crude barite production and shipments.....	1,000 s. tons.	963.5	82.9	1.8	974.0	203.6	2.4
14722 01	Prepared barite (crushed or ground, including flotation concentrates).....	...do...	736.6	731.4	18.2	740.4	756.0	17.1
14720 00	Barite, n.s.k.....	.....	(X)	.1		(X)	-	
	South							
14721 01	Crude barite production and shipments.....	1,000 s. tons.	428.9	10.4	.2	418.4	46.5	.8
14722 01	Prepared barite (crushed or ground, including flotation concentrates).....	.....	382.5	398.2	10.1	(NA)	(NA)	(NA)

- Represents zero. (X) Not applicable. (NA) Not available.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1472- --BARITE						
	Selected supplies, minerals received for preparation and purchased machinery installed, total.....	.....	(X)	2.4	(X)	3.2
147091	Minerals mined and received for preparation: Mined and prepared at same establishment.....	1,000 s. tons.	800.9	(X)	815.5	(X)
	Received for preparation.....	.....	(X)	( <sup>1</sup> )	(X)	( <sup>1</sup> )
353011	Purchased machinery installed.....	.....	(X)	1.0	(X)	1.1
	Supplies used: Explosive materials, except ammonium nitrate.....	.....				
289211	Ammonium nitrate.....	.....	(X)	1.1	(X)	1.3
289212	Blasting accessories.....	.....				
289214	Steel mill shapes and forms.....	.....				
331201	All other supplies.....	.....	(X)	1.3	(X)	1.7
970099	Undistributed supplies <sup>2</sup> .....	.....				

(X) Not applicable.

<sup>1</sup>The cost of minerals received for preparation is included with the cost of explosive materials, blasting accessories, and steel mill shapes and forms.

<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1472, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**  
INDUSTRY SERIES

C72(P)-14D-2  
Issued April 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**Fluorspar, SIC 1473**

The Fluorspar Industry includes establishments primarily engaged in mining, milling, or otherwise preparing fluorspar.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC Manual, were unchanged as to code number or

content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Fluorspar Industry amounted to \$28 million, an increase of 45 percent compared with 1967. Value added in mining amounted to \$16 million in 1972, also an increase of 45 percent from 1967. Average employment in the industry showed an increase of 14 percent from 1967 to a total of .8 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1473.--FLUORSPAR											
1972 .....	37	10	0.8	7.9	0.7	1.6	6.4	15.9	15.2	28.4	2.7
1967 .....	32	9	.7	4.7	.6	1.3	3.7	11.0	9.7	19.6	1.1
1963 .....	30	7	.8	4.0	.7	1.3	3.0	8.9	7.2	15.8	.3
1958 .....	55	11	1.2	5.6	1.0	2.1	4.3	12.7	8.9	20.0	1.6
1954 .....	104	15	1.3	4.9	1.0	2.0	3.5	9.9	6.3	15.5	.7

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1473.--FLUORSPAR													
United States, total.	37	10	0.8	7.9	0.7	1.6	6.4	15.9	15.2	28.4	2.7	0.7	11.0
South Region.....	11	3	.2	1.2	.1	.3	.9	4.1	7.0	11.0	.2	(NA)	(NA)

(NA) Not available.

## TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967			
			Production	Shipments including interplant transfers		Production		
				Quantity	Value (million dollars)			
INDUSTRY 1473.--FLUORSPAR								
14731 01	United States, total.....	1,000 s. tons.	(X) (NA)	(X) (NA)	26.5 .6	(X) 829.4	(X) 152.9	16.6 1.1
14732 01	Prepared fluorspar (crushed or ground, including flotation concentrates) (production and shipments).....	...do....	352.7 (X)	343.4 (X)	24.3 1.6	r 393.4 (X)	r 389.6 (X)	15.5 -
14730 00	Fluorspar, n.s.k.....	.....						
14732 01	North Central Region: Prepared fluorspar (crushed or ground, including flotation concentrates) (production and shipments).....	1,000 s. tons.	(D)	(D)	(D)	232.5	231.3	10.4
14732 01	South Region: Prepared fluorspar (crushed or ground, including flotation concentrates) (production and shipments).....	...do....	150.3	150.3	10.1			
14732 01	Mountain Division: Prepared fluorspar (crushed or ground, including flotation concentrates) (production and shipments).....	...do....	(D)	(D)	(D)	160.9	158.3	5.2

- Represents zero. (X) Not applicable. (NA) Not available. (D) Withheld to avoid disclosing figures for individual companies.  
 Revised. n.s.k. Not specified by kind.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1473.--FLUORSPAR						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	12.8	(X)	7.9
147091	Minerals mined and received for preparation: Mined and prepared at same establishment.....	1,000 s. tons.	773.9	(X)	761.0	(X)
	Received for preparation.....	...do....	(NA)	( <sup>1</sup> )	274.7	3.4
353011	Purchased machinery installed.....	.....	(X)	1.1	(X)	.5
289211	Supplies used: Explosive materials, except ammonium nitrate.....	1,000 lb.....				
289212	Ammonium nitrate.....	...do....				
289214	Blasting accessories.....	.....				
331201	Steel mill shapes and forms.....	.....				
970099	All other supplies.....	.....				
974000	Undistributed supplies <sup>2</sup> .....	.....				

(X) Not applicable. (NA) Not available. (Z) Less than half of the unit of measurement shown.

<sup>1</sup>Included in all other supplies.<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data, and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1473, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

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## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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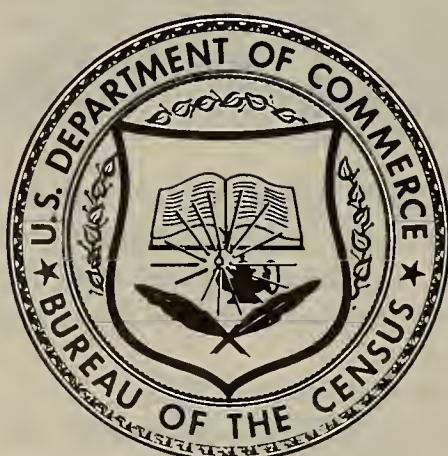
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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**  
INDUSTRY SERIES

MIC72(P)-14D-3

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

Issued April 1974

**Potash, Soda, and Borate Minerals, SIC 1474**

The Potash, Soda, and Borate Minerals Industry represents establishments primarily engaged in mining, milling, or otherwise preparing natural potassium, sodium, or boron compounds (other than common salt). Products of this industry include potash salts, sodium borates (borax, kernite, ulexite), sodium carbonates (soda ash, trona), sodium sulfates (principally Glauber's salt); and colemanite, a calcium borate. Dry-lake brine operations are included in this industry as well as establishments engaged in producing the specified minerals from underground and open-pit mines.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC)

Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Potash, Soda, and Borate Minerals Industry amounted to \$261 million, an increase of 21 percent compared with 1967. Value added in mining amounted to \$214 million in 1972, an increase of 14 percent from 1967. Average employment in the industry showed a decrease of 13 percent from 1967 to a total of 6.9 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1474.--POTASH, SODA, AND BORATE MINERALS											
1972.....	32	21	6.9	77.2	4.8	10.3	48.6	214.3	105.4	261.2	58.6
1967.....	33	28	7.9	67.8	5.1	10.7	41.4	187.7	71.0	215.7	43.0
1963.....	23	16	7.1	51.9	4.8	9.8	32.9	156.2	62.7	192.1	26.8
1958.....	21	14	6.7	41.1	4.6	9.2	26.7	111.1	41.4	141.1	11.4
1954.....	20	13	6.3	33.4	4.7	9.4	23.0	82.2	34.6	107.8	9.1

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Primary Products of the Industry: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product	Unit of measure	1972		1967	
			Production	Shipments including interplant transfers	Production	Shipments including interplant transfers
				Quantity		Quantity
				Value (million dollars)		Value (million dollars)
1474- --	POTASH, SODA, AND BORATE MINERALS, TOTAL.....	.....	(X)	(X)	1259.1	(X)
14741 01	Potassium salts:					
	Crude salts.....	1,000 s. tons.	215,347.9	-	- 221,340.0	( <sup>3</sup> )
14742 01	Processed or refined salts.....	...do....	4,623.5	4,518.7	103.0	5,573.4
14743 01	Natural sodium carbonates.....	...do....	(NA)	13,137.9	170.1	(NA)
14743 03	Natural sodium sulfate.....	...do....	(NA)	(NA)	185.6	(NA)
14744 01	Boron compounds.....	...do....				1,554.4
14740 00	Potash, soda, and borate minerals, n.s.k.....	.....	(X)	(X)	.4	(X)

- Represents zero. (X) Not applicable. (NA) Not available.

<sup>1</sup>Represents net shipments obtained from gross shipments of crude and processed or refined salts by subtracting shipments of crude salts to other establishments for processing or refining.<sup>2</sup>Represents production from underground mines only. Does not include production from well brines or dry-lake brines; only shipments were reported for such operations.<sup>3</sup>For 1967, crude salts are included with processed or refined salts.

**TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967**

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
<b>INDUSTRY 1474.--POTASH, SODA, AND BORATE MINERALS</b>						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	76.2	(X)	51.3
147091 353011	Minerals received for preparation.....	1,000 s. tons.	186.6	1.2	(D)	( <sup>1</sup> )
	Purchased machinery installed.....	.....	(X)	44.3	(X)	16.6
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	1,928.0	.3	4,250.5	.9
289212	Ammonium nitrate.....	do.....	12,940.4	.5	19,617.0	.8
289214	Blasting accessories.....	.....	(X)	.5	(X)	.8
331201	Steel mill shapes and forms.....	.....	(X)	3.2	(NA)	5.2
970099	All other supplies.....	.....	(X)	24.1	{(X)}	127.0
974000	Undistributed supplies.....	.....	(X)	<sup>2</sup> 2.1		

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<sup>1</sup>For 1967, the cost of minerals received for preparation is included with the costs of "All other supplies" and "Undistributed supplies."<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

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**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

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# 1972 CENSUS OF MINERAL INDUSTRIES

## INDUSTRY SERIES

C72(P)-14D-4  
Issued April 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

### Phosphate Rock, SIC 1475

The Phosphate Rock Industry includes establishments primarily engaged in mining, milling, drying, calcining, sintering, or otherwise preparing phosphate rock, including apatite.

Establishments primarily engaged in the production of phosphoric acid, superphosphates, or other manufactured phosphate compounds or chemicals are classified in SIC Major Group 28.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which serve mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Phosphate Rock Industry amounted to \$255 million, a decrease of 14 percent compared with 1967. Value added in mining amounted to \$158 million in 1972, a decrease of 21 percent from 1967. Average employment in the industry showed a decrease of 26 percent from 1967 to a total of 6 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of sup- plies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1475.--PHOSPHATE ROCK											
1972 .....	49	26	6.0	54.5	4.2	8.9	34.2	158.2	112.5	254.8	16.0
1967 .....	69	41	8.1	59.6	5.4	12.0	35.3	199.3	145.0	296.6	47.7
1963 .....	66	39	5.6	32.0	4.0	9.0	20.6	105.1	89.0	171.9	22.2
1958 .....	65	37	5.4	27.2	4.0	8.3	17.2	64.4	73.4	132.1	5.7
1954 .....	75	39	5.4	21.5	4.6	10.1	17.1	62.1	67.2	118.0	11.3

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Geographic data withheld to avoid disclosing figures for individual companies.)

## TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967			
			Production	Shipments including interplant transfers		Production	Shipments including interplant transfers	
				Quantity	Value (million dollars)		Quantity	Value (million dollars)
INDUSTRY 1475.—PHOSPHATE ROCK								
	United States, total.....	.....	(X)	(X)	252.8	(X)	(X)	293.9
Production and shipments:								
14751 01	Crude phosphate rock (ore or matrix).....	Mil. dry s. tons.	124.6	2.7	8.8	128.6	5.9	13.5
14751 03	Shipped to washer or concentrator.....	...do....	(X)	2.7	8.8	(X)	3.4	4.6
14751 05	All other shipments.....	...do....				(X)	2.6	8.9
14752 01	Washed or concentrated phosphate rock.....	...do....	38.7	8.8	38.6	34.3	17.2	72.1
14752 03	Shipped to drier.....	...do....	(X)	8.8	38.6	(X)	13.8	48.5
14752 05	All other shipments.....	...do....				(X)	3.5	23.6
14752 06	Dried phosphate rock.....	...do....	25.7	25.7	158.2	26.4	26.3	169.9
14752 08	Calcinced or sintered phosphate rock.....	...do....	4.2	4.2	46.0	3.9	3.9	38.5
14752 09	Net shipments of phosphate rock <sup>1</sup> .....	...do....	(X)	35.7	229.2	(X)	36.2	240.8
14750 00	Not specified by kind.....	.....	(X)	(X)	1.2	(X)	(X)	-
Northeast, North Central, and South Regions:								
14751 01	Production and shipments:							
14751 01	Crude phosphate rock (ore or matrix).....	Mil. dry s. tons.	119.7	(D)	(D)	123.0	3.2	4.1
14752 01	Washed or concentrated phosphate rock.....	...do....						
14752 06	Dried phosphate rock.....	...do....						
14752 08	Calcinced by sintered phosphate rock.....	...do....	28.6	29.7	190.9	62.0	44.9	259.0
14752 09	Net shipments of phosphate rock <sup>1</sup> .....	...do....	(X)	29.8	193.6	(X)	31.7	211.6
14750 00	Not specified by kind.....	.....	(X)	(X)	1.1	(X)	(X)	-
Florida:								
14751 01	Production and shipments:							
14751 01	Crude phosphate rock (ore or matrix).....	Mil. dry s. tons.	113.2	4.8	25.3	119.9	15.2	56.8
14752 01	Washed or concentrated phosphate rock.....	...do....	30.3			29.2		
14752 06	Dried phosphate rock.....	...do....						
14752 08	Calcinced phosphate rock.....	...do....	27.8	27.9	168.9	26.5	26.4	168.0
14750 00	Net shipments of phosphate rock <sup>1</sup> .....	...do....	(X)	29.8	181.1	(X)	27.9	176.2
	Not specified by kind.....	.....	(X)	(X)	.7	(X)	(X)	-

- Represents zero. (X) Not applicable. (D) Withheld to avoid disclosing figures for industrial companies. n.s.k. Not specified by kind.

<sup>1</sup>Represents all other shipments of crude and washed or concentrated phosphate rock plus shipments of dried and calcined or sintered phosphate rock. Data for product code 14750 00, phosphate rock, not specified by kind are excluded from this figure.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1475---PHOSPHATE ROCK						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	65.3	(X)	112.7
147091	Minerals mined and received for preparation, total.....	Mil. s. tons..	125.5	(X)	136.8	(X)
	Mined and prepared at same establishment.....	...do.....	121.3	(X)	121.9	(X)
	Received from other establishments.....	...do.....	4.2	14.4	13.3	52.1
353011	Purchased machinery installed.....	.....	(X)	14.1	(X)	33.6
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	.....				
289212	Ammonium nitrate.....	.....	(X)	( <sup>1</sup> )	(X)	( <sup>1</sup> )
289214	Blasting accessories.....	.....	(X)		(X)	
331201	Steel mill shapes and forms.....	.....	(X)	4.0	(X)	1.2
970099	All other supplies.....	.....	(X)		(X)	
974000	Undistributed supplies <sup>2</sup> .....	.....	(X)	<sup>1</sup> 32.8	(X)	<sup>1</sup> 25.8

(X) Not applicable.

<sup>1</sup>The costs of explosive materials, except ammonium nitrate, ammonium nitrate and blasting accessories are included with the costs of all other supplies and undistributed supplies.<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1475, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

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PRELIMINARY REPORT

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INDUSTRY SERIES

MIC72(P)-14D-5

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

Issued March 1974

**Rock Salt, SIC 1476**

The Rock Salt Industry includes establishments primarily engaged in mining, crushing, and screening rock salt.

Establishments primarily engaged in producing salt by evaporation of sea water or brine are classified in industry 2899, Chemicals and Chemical Preparations, N.E.C.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Rock Salt Industry amounted to \$86 million, an increase of 6 percent compared with 1967. Value added in mining amounted to \$74 million in 1972, an increase of 5 percent from 1967. Average employment in the industry showed an increase of 8 percent from 1967 to a total of 2.8 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1476.--ROCK SALT											
1972 .....	32	20	2.8	26.8	2.1	4.4	18.1	74.1	19.4	86.5	7.0
1967 .....	26	18	2.6	19.3	1.9	4.4	13.0	70.9	17.7	81.3	7.3
1963 .....	25	15	2.4	16.0	1.8	4.3	11.1	49.5	17.2	59.3	7.4
1958 .....	22	12	2.0	11.0	1.6	3.5	7.9	34.1	10.3	41.8	2.6
1954 .....	15	12	1.9	8.6	1.7	3.9	7.1	30.0	7.8	35.7	2.2

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)					(1,000)	(million dollars)
INDUSTRY 1476.--ROCK SALT													
United States, total..	32	20	2.8	26.8	2.1	4.4	18.1	74.1	19.4	86.5	7.0	2.6	70.9
North Central Region.....	7	7	.8	7.8	.7	1.3	5.9	19.9	6.0	23.9	2.0	(NA)	(NA)
South Region.....	10	7	1.1	9.3	.9	1.9	7.4	30.7	9.1	38.1	1.7	(NA)	(NA)

(NA) Not available.

TABLE 3. Quantity and Value of Shipments by All Producers: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Value of shipments")

1972 product code	Product and geographic area	Unit of measure	Total product shipments including interplant transfers			
			1972		1967	
			Quantity	Value (million dollars)	Quantity	Value (million dollars)
1476- --	ROCK SALT, TOTAL.....	1,000 s. tons..	14,245.2	185.0	11,747.8	179.8
14760 00	Northeast Region.....	...do.....	3,210.2	21.6		
14760 00	North Central Region.....	...do.....	3,741.6	23.9	6,802.9	45.1
14760 00	West South Central Division.....	...do.....	16,929.4	136.9		
14760 00	West Region.....	...do.....	1364.2	12.6	14,944.9	134.7

<sup>1</sup>Represents net shipments obtained by subtracting minerals received for preparation from gross shipments.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1476.--ROCK SALT						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	15.3	(X)	14.2
147091	Minerals mined and received for preparation:					
	Mined and prepared.....	1,000 s. tons.	14,351.7	(X)	11,448.1	(X)
	Received for preparation.....	...do.....	(D)	( <sup>1</sup> )	(D)	( <sup>1</sup> )
353011	Purchased machinery installed.....	.....	(X)	4.4	(X)	4.9
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	1,538.1	.4	{ } 6,694.0	.8
289212	Ammonium nitrate.....	...do.....	8,819.0	.4		
289214	Blasting accessories.....	.....	(X)	.3		
331201	Steel mill shapes and forms.....	.....	(X)	.7		
970099	All other supplies.....	.....	(X)	8.4	{ } (X)	8.3
974000	Undistributed supplies <sup>2</sup> .....	.....	(X)	.7		

(X) Not applicable. (D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Minerals received for preparation are included with all other supplies used.<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1476, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

*(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)*

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**  
INDUSTRY SERIES

IIC72(P)-14D-6

Issued March 1974

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

**Sulfur, SIC 1477**

The Sulfur Industry includes establishments primarily engaged in mining native sulfur, including the extraction of native sulfur at well operations, and mining and beneficiating sulfur ore. Establishments primarily engaged in mining, preparing to mine, or concentrating pyrites are classified in industry 1479.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Sulfur Industry amounted to \$130 million, a decrease of 52 percent compared with 1967. Value added in mining amounted to \$106 million in 1972, a decrease of 58 percent from 1967. Average employment in the industry showed a decrease of 9 percent from 1967 to a total of 2.9 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1477.--SULFUR											
1972 .....	26	19	2.9	34.6	1.5	3.0	15.4	105.9	25.7	129.7	1.9
1967 .....	31	21	3.2	30.5	1.8	4.0	15.1	253.2	48.3	271.1	30.3
1963 .....	17	10	2.6	20.6	1.6	3.3	10.6	100.3	13.8	113.1	1.1
1958 .....	24	13	3.7	24.6	2.3	4.6	13.3	94.1	28.4	106.2	16.3
1954 .....	20	13	4.1	21.2	3.1	6.2	14.6	124.2	25.4	140.7	8.8

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Primary Products of the Industry: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product	Unit of measure	1972		1967			
			Production	Shipments including interplant transfers	Production	Shipments including interplant transfers		
				Quantity		Quantity		
14770 00	Sulfur <sup>1</sup> .....	1,000 l. tons.	6,766.5	7,352.0	129.5	7,004.1	7,607.3	271.2

<sup>1</sup>Represents Frasch process sulfur and sulfur ore.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1477.--SULFUR						
	Selected supplies, and purchased machinery installed, total....		(X)	11.8	(X)	26.3
353011	Purchased machinery installed.....		(X)	.8	(X)	10.3
331201	Supplies used:					
970099	Steel mill shapes and forms.....					
974000	All other supplies.....		(X)	11.0	(X)	16.1
Undistributed supplies <sup>1</sup> .....						

(X) Not applicable.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

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exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

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**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.



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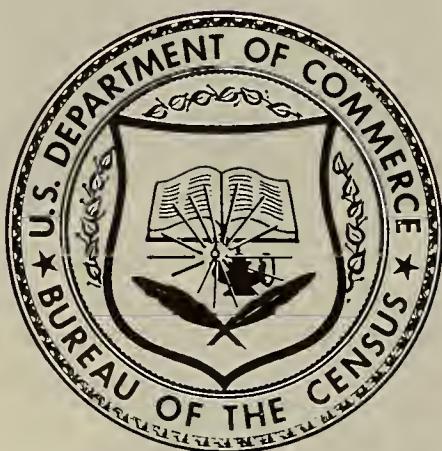
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PRELIMINARY REPORT

**1972 CENSUS OF  
MINERAL INDUSTRIES**  
INDUSTRY SERIES

IC72(P)-14D-7

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

Issued April 1974

**Chemical and Fertilizer Mining, N.E.C., SIC 1479**

The Chemical and Fertilizer Mining, N.E.C., Industry includes establishments primarily engaged in mining, milling, or otherwise preparing chemical or fertilizer mineral raw materials, not elsewhere classified.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC

manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Chemical and Fertilizer Mining, N.E.C., Industry amounted to \$6 million, an increase of 9 percent compared with 1967. Value added in mining amounted to \$4 million in 1972, an increase of 6 percent from 1967. Average employment in the industry showed a decrease of 33 percent from 1967 to a total of .2 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1479.--CHEMICAL AND FERTILIZER MINING, N.E.C.											
1972 .....	7	3	0.2	1.4	0.1	0.3	1.0	3.6	3.5	6.1	1.1
1967 .....	12	3	.3	1.6	.2	.4	1.1	3.4	2.9	5.6	.7
1963 .....	20	6	1.1	6.0	.8	1.6	3.8	12.4	7.0	18.3	1.1
1958 .....	24	7	2.0	7.8	1.6	2.6	6.1	9.7	6.8	15.8	.7
1954 .....	27	7	1.3	4.9	1.1	2.1	3.8	14.7	2.4	15.0	2.1

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Value of Shipments by All Producers: 1972 and 1967

(Includes value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual products")

1972 product code	Product	Value of shipments including interplant transfers (million dollars)	
		1972	1967
14790 01	CHEMICAL AND FERTILIZER MINING, N.E.C. <sup>1</sup> .....	(D)	<sup>2</sup> 13.3

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Represents pyrites and such other miscellaneous chemical and fertilizer minerals as spodumene, lithium carbonate, wollastonite and natural wollastonite, and natural iron oxide pigments.<sup>2</sup>Represents net shipments obtained from gross shipments by subtracting minerals received from other establishments for preparation.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1479.--CHEMICAL AND FERTILIZER MINING, N.E.C.						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	3.0	(X)	2.2
147091 353011	Crude minerals received for preparation.....	1,000 s. tons.			(D)	<sup>(1)</sup>
	Purchased machinery, installed.....	.....			(X)	.5
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....				
289212	Ammonium nitrate.....	...do.....				
289214	Blasting accessories.....	.....				
331201	Steel mill shapes and forms.....	.....				
970099	All other supplies.....	.....				
974000	Undistributed supplies <sup>2</sup> .....	.....				

(X) Not applicable. (D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>The cost of minerals received for preparation is included with the costs of steel mill shapes and forms, all other supplies, and undistributed supplies.<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1479, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

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Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

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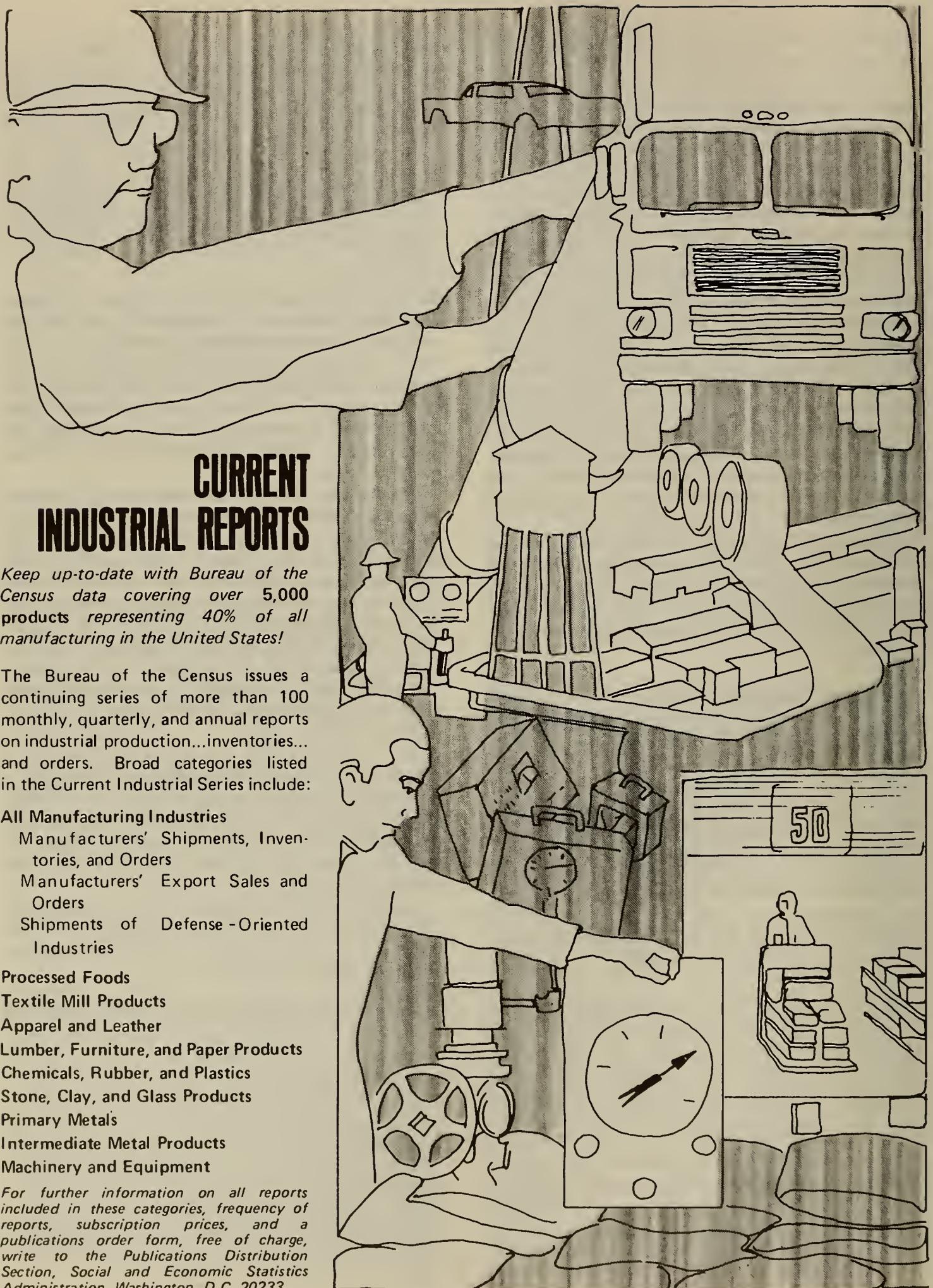
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INDUSTRY SERIES

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Issued April 1974

## Nonmetallic Minerals Services, SIC 1481

The Nonmetallic Minerals Services Industry includes establishments primarily engaged in the removal of overburden, strip mining, and other services for nonmetallic minerals (except fuel) for others on a contract, fee, or other basis.

Establishments primarily engaged in performing hauling services are excluded from this industry and all other industries in the mining division.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Nonmetallic Minerals Services Industry amounted to \$23 million, an increase of 52 percent compared with 1967. Value added in mining amounted to \$16 million in 1972, an increase of 45 percent from 1967. Average employment in the industry showed an increase of 13 percent from 1967 to a total of .9 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1481--NONMETALLIC MINERALS SERVICES											
1972 .....	120	9	0.9	9.2	0.7	1.6	7.1	16.2	9.1	23.1	2.2
1967 .....	106	10	.8	5.9	.8	1.5	4.9	11.2	5.9	15.3	1.9
1963 .....	119	11	.9	4.6	.8	1.6	4.2	9.3	5.4	13.2	1.4
1958 .....	75	6	1.1	3.5	1.0	1.9	3.0	6.2	2.6	7.9	.8
1954 .....	62	4	.6	2.3	.6	1.3	2.2	4.9	2.1	6.6	.4

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972									1967	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1481--NONMETALLIC MINERALS SERVICES											
United States, total.	120	9	0.9	9.2	0.7	1.6	7.1	16.2	9.1	23.1	2.2
Northeast Region.....	18	1	.1	1.4	.1	.2	.7	2.2	1.1	3.0	.3
North Central Region.....	28	-	.1	1.2	.1	.2	1.0	2.7	1.0	3.4	.3
East North Central Div.	14	-	.1	.8	.1	.1	.6	1.7	.7	2.1	.2
Ohio.....	8	-	(Z)	.4	(Z)	.1	.4	.8	.4	1.1	.1
West North Central Div.	14	-	.1	.4	(Z)	.1	.4	1.0	.3	1.3	.1
South Region.....	30	2	.1	1.2	.1	.2	.9	2.5	1.3	3.3	.5
West Region.....	44	6	.5	5.5	.4	.9	4.4	8.7	5.8	13.5	1.0
Mountain Division.....	33	6	.4	4.9	.4	.9	4.0	7.9	4.9	12.2	.6
Nevada.....	5	1	(Z)	.3	(Z)	.1	.3	.6	.1	.7	(Z)
Pacific Division.....	11	-	.1	.5	.1	.1	.5	.8	.9	1.3	.4

- Represents zero.

(NA) Not available.

(Z) Less than half of the unit of measurement shown.

TABLE 3. Primary Services of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

Product code	Service and geographic area	Unit of measure	1972		1967	
			Crude ores produced	Receipts for services <sup>1</sup>	Crude ores produced	Receipts for services <sup>1</sup>
			(million dollars)		(million dollars)	
1481- --	NONMETALLIC MINERALS SERVICES					
	United States, total.....		(X)	23.8	(X)	16.2
	Drilling:					
14818 03	Prospect and test drilling.....		(X)	4.3	(X)	1.7
14818 05	Other drilling, including blasting.....		(X)	4.3	(X)	3.1
14818 07	Sinking mine shafts and driving mine tunnels.....		(X)	(Z)	(X)	.8
14818 04	Open-pit or quarry mining minerals not for own account.....	Mil. s. tons..	(NA)	3.0	4.5	4.3
14818 09	Other nonmetallic minerals (except fuel) services including stripping overburden, and exploration work, including geophysical and other exploratory surveying.....		(X)	7.9	(X)	6.4
14810 00	Nonmetallic minerals services, n.s.k. <sup>2</sup> .....		(X)	4.3	(X)	-
	Northeast and North Central Regions.....		(X)	6.4	(X)	5.2
14818 03	Drilling.....		(X)	2.2	(X)	2.8
14818 05	Open-pit or quarry mining minerals not for own account.....	Mil. s. tons..	(NA)	1.2	(NA)	.4
	South Region.....		(X)	3.6	(X)	3.7
14818 03	Drilling.....		(X)	.5	(X)	1.0
14818 05	Open-pit or quarry mining minerals not for own account.....	Mil. s. tons..	(NA)	1.3	(D)	1.6
	West Region.....		(X)	13.8	(X)	7.3
14818 03	Drilling.....		(X)	5.9	(X)	.9
14818 05	Sinking mine shafts and driving mine tunnels.....	Mil. s. tons..	(D)	(D)	(X)	.8
14818 07	Open-pit or quarry mining minerals not for own account.....	.....do.....	(NA)	.5	2.3	2.2

- Represents zero. (X) Not applicable. (NA) Not available. (D) Withheld to avoid disclosing figures for individual companies.

(2) Less than half of the unit of measurement shown. n.s.k. Not specified by kind.

<sup>1</sup>Excludes receipts for contract services performed by mine operators classified in nonmetallic minerals (except fuels) mining industries.

<sup>2</sup>Represents receipts by establishments that did not report detailed services data as well as estimated receipts for establishments which were not mailed report forms.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1481.--NONMETALLIC MINERALS SERVICES					
	Selected supplies, and purchased machinery installed, total.....		(X)	7.9	(X)	4.8
353011	Purchased machinery installed.....		(X)	1.4	(X)	1.8
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	354.4	.1		
289212	Ammonium nitrate.....	.....do.....				
289214	Blasting accessories.....					
331201	Steel mill shapes and forms.....		(X)	3.9	(X)	3.0
970099	All other supplies.....		(X)			
974000	Undistributed supplies <sup>1</sup> .....		(X)	2.5		

(X) Not applicable.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data, and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1481, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

The 1972 Census of Mineral Industries is the 17th census of mineral establishments in the United States. For 1972, it was conducted jointly with the censuses of manufactures, construction, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specifies that a census of mineral industries be conducted every 5 years to cover years ending in "2" and "7."

## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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# 1972 CENSUS OF MINERAL INDUSTRIES

## INDUSTRY SERIES

IC72(P)-14E-2

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Issued April 1974

### Gypsum, SIC 1492

The Gypsum Industry includes establishments primarily engaged in mining, quarrying, milling, or otherwise preparing gypsum. Calcining activities are excluded. However, if a gypsum mine is part of an establishment producing gypsum or other manufactured products, the entire establishment is classified in the manufacturing industry 3275, Gypsum Products, or in another appropriate manufacturing industry. In 1972, about three-fourths of all gypsum produced was mined at such establishments.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office

of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Gypsum Industry amounted to \$9 million, a decrease of 3 percent compared with 1967. Value added in mining amounted to \$7 million in 1972, a decrease of 5 percent from 1967. Average employment in the industry showed a drop of 100 employees from 1967 to total of 300 employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
INDUSTRY 1492.--GYPSUM											
1972, total.....	56	21	1.1	8.0	1.1	2.1	7.3	46.2	6.1	51.8	(NA)
Gypsum industry.....	18	6	.3	2.6	.3	.5	1.9	6.9	2.7	9.0	.6
Gypsum mines in manufacturers.....	38	15	1.8	15.4	1.8	1.6	5.4	39.3	23.4	342.8	(NA)
1967, total.....	67	12	.9	5.2	.8	1.7	4.8	3D.3	4.5	34.3	(NA)
Gypsum industry.....	33	5	.4	2.3	.3	.7	1.9	7.3	2.5	9.3	.6
Gypsum mines in manufacturers.....	34	7	1.5	12.9	1.5	1.0	2.9	23.0	2.0	325.0	(NA)
1963, total.....	74	22	1.2	6.0	1.1	2.2	5.5	33.6	6.5	38.9	(NA)
Gypsum industry.....	37	6	.5	2.4	.4	.8	1.9	7.8	3.7	10.2	1.3
Gypsum mines in manufacturers.....	37	16	1.7	13.6	1.7	1.4	3.6	25.9	2.8	328.7	(NA)
1958, total.....	64	20	1.3	5.6	1.2	2.5	5.3	29.8	5.2	34.2	(NA)
Gypsum industry.....	32	4	.4	1.8	.4	.8	1.5	6.0	1.9	7.0	.8
Gypsum mines in manufacturers.....	32	16	1.9	13.8	1.9	1.7	3.8	23.8	2.3	327.1	(NA)
1954, total.....	64	(NA)	1.5	5.9	1.4	3.0	5.6	27.6	6.6	31.9	(NA)
Gypsum industry.....	37	5	.4	1.9	.4	.9	1.6	5.4	3.7	6.6	2.4
Gypsum mines in manufacturers.....	27	(NA)	11.0	14.0	11.0	2.1	4.0	22.3	2.9	325.2	(NA)

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

(NA) Not available.

<sup>1</sup>Number of production, development, and exploration workers was estimated from reported figures for man-hours. No data were obtained on other employees at such operations; hence, the same employment and payroll figures are shown for all employees as for production, development, and exploration workers.<sup>2</sup>Excludes the cost of purchased machinery.<sup>3</sup>Includes the estimated value of gypsum produced and used in the same establishment in the manufacture of calcined gypsum products.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972									1967			
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number <sup>1</sup>	Payroll <sup>1</sup>	Number <sup>1</sup>	Man-hours	Wages						
INDUSTRY 1492.--GYPSUM													
United States, total.....	18	6	0.3	2.6	0.3	0.5	1.9	6.9	2.7	9.0	0.6	0.4	7.3
West South Central Div... Pacific Division.....	6	3	.1	.8	.1	.2	.6	2.0	1.0	2.7	.3	(NA)	(NA)
GYPSUM MINES AT MANUFACTURING ESTABLISHMENTS													
United States, total.....	38	15	D.8	5.4	0.8	1.6	5.4	39.3	33.4	42.8	(NA)	0.5	23.0
West North Central Div...	7	2	.1	.8	.1	.2	.8	7.9	3.8	8.7	(NA)	.1	5.9
South Region..... Texas.....	11	4	.3	1.6	.3	.6	1.6	12.0	31.0	13.1	(NA)	.2	6.7
West Region.....	7	2	.2	.7	.2	.3	.7	7.7	3.5	8.2	(NA)	(Z)	3.6
West Region.....	11	3	.1	1.1	.1	.2	1.1	10.2	3.6	10.8	(NA)	.1	4.1

(NA) Not available. (Z) Less than half of the unit of measurement shown.

<sup>1</sup>The number of production, development, and exploration workers for gypsum mines at manufacturing establishments was estimated from reported figures for man-hours. No data were obtained on other employees at such operations; hence, the same employment and payroll figures are shown for all employees as for production, development, and exploration workers.<sup>2</sup>Includes the estimated value of gypsum produced and used in the same establishment in the manufacture of calcined gypsum products.<sup>3</sup>Excludes the cost of purchased machinery.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967	
			Production	Shipments including interplant transfers	Production	Shipments including interplant transfers
				Quantity		Quantity
INDUSTRY 1492.--GYPSUM						
14921 01	United States, total.....	.....	(X)	(X)	18.7	(X)
32950 61	Crude gypsum, total.....	Mil. s. tons	12.8	1.0	.8	9.2
	Produced by mines classified in the Gypsum Industry.....	do.....	3.0			0.6
	Produced by mines included in establishments classified in manufacturing industries <sup>2</sup> .....	do.....	9.8	1.0	.8	3.0
14922 01	Crushed, ground, screened, or dried gypsum, total.....	do.....	(NA)	4.3	15.7	(NA)
32950 61	Produced at preparation plants included in establishments classified in the Gypsum Industry.....	do.....	2.9	2.7	7.9	2.4
	Produced at preparation plants included in establishments classified in manufacturing industries.....	do.....	(NA)	1.6	7.8	(NA)
14921 01	Northeast and North Central Regions:					
	Crude gypsum, total.....	do.....	5.8	(D)	(0)	4.8
	Produced by mines classified in the Gypsum Industry.....	do.....	1.3			1.3
	Produced by mines included in establishments classified in manufacturing industries <sup>2</sup> .....	do.....	4.5	(0)	(0)	3.5
14922 01	Crushed, ground, screened, or dried gypsum.....	do.....	(NA)	2.2	7.8	(NA)
32950 61						2.4
14921 01	Middle Atlantic Oivision (New York), crude gypsum.....	do.....	.5	-	-	.6
14921 01	East North Central Oivision, crude gypsum.....	do.....	3.5	(D)	(0)	2.5
14921 01	West North Central Oivision, crude gypsum.....	do.....	1.8	-	-	1.7
14921 01	South Region:					
	Crude gypsum, total.....	do.....	3.7	(0)	(D)	2.3
	Produced by mines classified in the Gypsum Industry.....	do.....	.8	-	-	.6
	Produced by mines included in establishments classified in manufacturing industries <sup>2</sup> .....	do.....	2.9	(0)	(0)	1.7
14922 01	Crushed, ground, screened, or dried gypsum.....	do.....	(NA)	1.0	4.0	(NA)
32950 61						1.2
14921 01	Oklahoma, crude gypsum.....	do.....	.7	-	-	.8
Texas:						
14921 01	Crude gypsum.....	do.....	1.8	(0)	(0)	.9
14922 01	Crushed, ground, screened, or dried gypsum.....	do.....	(NA)	.2	.7	(NA)
						(NA)
14921 01	West Region:					
	Crude gypsum, total.....	do.....	3.3	(0)	(0)	2.1
	Produced by mines classified in the Gypsum Industry.....	do.....	.8	-	-	1.0
	Produced by mines included in establishments classified in manufacturing industries <sup>2</sup> .....	do.....	2.5	(0)	(0)	1.1
14922 01	Crushed, ground, screened, or dried gypsum.....	do.....	(NA)	1.1	3.9	(NA)
32950 61						1.5
14921 01	Mountain Division:					
	Crude gypsum.....	do.....	1.8	(0)	(0)	.9
14922 01	Crushed, ground, screened, or dried gypsum.....	do.....	(NA)	.4	1.7	(NA)
32950 61						.6
14921 01	Nevada, crude gypsum.....	do.....	.9	-	-	.4
Pacific Oivision:						
14921 01	Crude gypsum.....	do.....	1.5	(0)	(0)	1.2
14922 01	Crushed, ground, screened, or dried gypsum.....	do.....	(NA)	.7	2.2	(NA)
32950 61						.9
Note: Detail may not add to total because of independent rounding.						
- Represents zero. (0) Withheld to avoid disclosing figures for individual companies. (NA) Not available. (X) Not applicable.						
<sup>1</sup> Excludes product code 32950 61 which is included in the detail below.						
<sup>2</sup> Includes gypsum produced and used in the same establishment in manufacturing gypsum products.						

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<sup>1</sup>Excludes product code 32950 61 which is included in the detail below.

<sup>2</sup>Includes gypsum produced and used in the same establishment in manufacturing gypsum products.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1492.--GYPSUM						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	2.1	(X)	2.0
147091	Minerals for preparation:					
	Mined and prepared at the same establishment.....	Mil. s. tons..	2.8	(X)	2.4	(X)
353011	Purchased machinery installed.....	.....	(X)	.5	(X)	.4
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	.....				
289212	Ammonium nitrate.....	.....				
289214	Blasting accessories.....	.....				
331201	Steel mill shapes and forms.....	.....				
970099	All other supplies.....	.....				
974000	Undistributed supplies <sup>1</sup> .....	.....				

(X) Not applicable.

<sup>1</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1492, these small establishments accounted for less than 1 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

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## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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**Social and Economic Statistics Administration**  
BUREAU OF THE CENSUS  
Washington, D.C. 20233

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# 1972 CENSUS OF MINERAL INDUSTRIES

INDUSTRY SERIES

MIC72(P)-14E-3

U.S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

Issued April 1974

## Talc, Soapstone, and Pyrophyllite, SIC 1496

The Talc, Soapstone, and Pyrophyllite Industry includes establishments primarily engaged in mining, quarrying, milling or otherwise preparing talc, soapstone, or pyrophyllite. Dimension soapstone is included in this industry.

Establishments engaged in grinding or otherwise preparing talc, soapstone or pyrophyllite which do not include a mine are classified in manufacturing industry 3295, Minerals and Earths, Ground or Otherwise Treated.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, pub-

lished by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were unchanged as to code number or content from the previous classification system.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Talc, Soapstone, and Pyrophyllite Industry amounted to \$23 million, an increase of 9 percent compared with 1967. Value added in mining amounted to \$14 million in 1972, a decrease of 14 percent from 1967. Average employment in the industry showed a decrease of 25 percent from 1967 to a total of 0.8 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1496.--TALC, SOAPSTONE, AND PYROPHYLLITE											
1972 .....	39	13	0.8	7.0	0.7	1.5	5.5	14.5	10.4	23.3	1.6
1967 .....	53	18	1.2	7.4	1.1	2.3	5.8	16.9	6.1	21.3	1.7
1963 .....	65	9	1.3	6.6	1.1	2.2	5.4	13.7	4.9	17.5	1.1
1958 .....	64	12	1.3	5.3	1.1	2.3	4.2	11.8	4.1	14.9	.9
1954 .....	68	13	1.5	4.9	1.3	2.8	4.1	9.5	3.5	11.8	1.2

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1496.--TALC, SOAPSTONE, AND PHYROPHYLLITE													
United States, total.	39	13	0.8	7.0	0.7	1.5	5.5	14.5	10.4	23.3	1.6	1.2	16.9
Northeast Region.....	8	3	.3	2.6	.2	.4	1.5	5.3	3.5	7.9	.9	.4	7.3
South Region.....	18	6	.4	2.9	.4	.8	2.4	5.8	4.4	9.7	.5	.6	6.7
West Region.....	13	4	.2	1.5	.1	.3	1.6	3.4	2.6	5.7	.2	.2	2.9

TABLE 3. Primary Products of the Industry: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product	Unit of measure	1972		1967	
			Production	Shipments including interplant transfers	Production	Shipments including interplant transfers
				Quantity		Quantity
1496- --	TALC, SOAPSTONE, AND PYROPHYLLITE, TOTAL.....	.....	(X)	(X)	<sup>1</sup> <sup>2</sup> 20.2	(X)
14961 01	Crude production and net shipments.....	(1,000 s. tons).	1,055.9	<sup>1</sup> <sup>2</sup> 385.5	<sup>1</sup> <sup>2</sup> 2.1	980.9
14962 01	Prepared (crushed, ground, or sawed, including flotation concen- trates), total.....	...do....	(X)	1,238.9	35.2	(NA)
32950 93	Ore mined and processed at establishments classified in the mineral industries.....	...do....	632.8	631.2	18.1	611.7
	Ore processed at establishments classified in the manufacturing industries.....	...do....	(X)	607.7	17.1	(NA)
						(NA)

Note: Detail may not add to the total because of independent rounding.

(X) Not applicable. (NA) Not available.

<sup>1</sup>Represents net shipments; that is, gross shipments less minerals received from other establishments for preparation.<sup>2</sup>Excludes data for prepared talc, soapstone, and pyrophyllite produced at establishments classified in manufacturing industries and shown separately below.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1496.--TALC, SOAPSTONE, AND PYROPHYLLITE					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	8.6	(X)	4.8
147091	Minerals mined and received for preparation: Mined and prepared at same establishment.....	1,000 s. tons.	625.8	(X)	686.8	(X)
	Received for preparation.....	...do....	(D)	( <sup>1</sup> )	(D)	( <sup>1</sup> )
353011	Purchased machinery installed.....	.....	(X)	1.4	(X)	1.2
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....	221.3	.1	592.8	.1
289212	Ammonium nitrate.....	...do....	(D)	( <sup>1</sup> )		
289214	Blasting accessories.....	.....	(X)	( <sup>2</sup> )		
331201	Steel mill shapes and forms.....	.....	(X)	.2		
970099	All other supplies.....	.....	(X)	3.6	(X)	3.5
974000	Undistributed supplies <sup>2</sup> .....	.....	(X)	3.3		

(X) Not applicable. (D) Withheld to avoid disclosing figures for individual companies.

(Z) Less than half of the unit of measurement shown.

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## Appendix B. EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the "General Summary" publication from the 1967 Census of Mineral Industries.)

**All Employees**—All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

**Payroll**—This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

**Production, Development, and Exploration Worker Man-Hours**—The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

**Cost of Supplies, Etc., and Purchased Machinery**—The 1972 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items include charges to both the current and capital accounts. The figures reported were to include items used during 1972 whether purchased, withdrawn from inventories, or received from other establishments of the company.

For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

**Specific Supplies Used and Minerals Prepared**—In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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# 1972 CENSUS OF MINERAL INDUSTRIES

## INDUSTRY SERIES

C72(P)-14E-4

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

Issued April 1974

### Nonmetallic Minerals, N.E.C., SIC 1499

The Nonmetallic Minerals, N.E.C., Industry includes establishments primarily engaged in mining, quarrying, milling, or otherwise preparing nonmetallic minerals, not elsewhere classified. This industry includes the shaping of natural abrasive stones at a quarry.

Establishments primarily engaged in the production of blast, grinding, or polishing sand are classified in industry 1446.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President.

The statistics for this industry, as classified under the 1972 edition of the SIC manual, were significantly changed in comparison with data classified by the

previous system. The current Nonmetallic Minerals, N.E.C., Industry includes former industries: Mica (SIC 1493), Native Asphalt and Bituminous (SIC 1494), Pumice and Pumicite (SIC 1495), Natural Abrasives, Except Sand (SIC 1497), and Peat (SIC 1498) as well as the former Nonmetallic Mineral, N.E.C. (SIC 1499) Industry. The 1967 statistics throughout this report have been presented based on the 1972 Standard Industrial Classification.

In 1972, the value of products shipped and miscellaneous receipts of establishments classified in the Nonmetallic Minerals, N.E.C., Industry amounted to \$165 million, an increase of 36 percent compared with 1967. Value added in mining amounted to \$122 million in 1972, an increase of 41 percent from 1967. Average employment in the industry showed an increase of 19 percent from 1967 to a total of 5.6 thousand employees in 1972.

For an explanation of the terms used in the tables, see appendix B at the end of this report.

TABLE 1. General Statistics: 1972 and Earlier Years

(See appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1499.--NONMETALLIC MINERALS, N.E.C.											
1972 .....	402	63	5.6	47.1	4.5	9.4	35.2	122.4	69.0	164.6	26.8
1967 .....	292	55	4.7	31.2	3.7	7.9	22.8	86.9	42.4	121.3	8.0
1963 .....	351	38	3.7	19.5	3.2	6.5	15.5	56.8	27.4	74.8	9.5
1958 .....	385	39	4.0	15.7	3.2	6.4	11.5	45.0	21.8	59.1	7.6
1954 .....	702	34	4.0	13.5	3.3	6.3	10.2	33.0	16.0	44.6	4.4

Note: Data prior to 1954 appear in Volume I, 1963 Census of Mineral Industries, in table 1 of the chapter devoted to this industry.

TABLE 2. General Statistics, by Geographic Areas: 1972 and 1967

(See appendix, Explanation of Terms)

Geographic area	1972										1967		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of industry shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)					(1,000)	(million dollars)
INDUSTRY 1499.--NONMETALLIC MINERALS, N.E.C.													
United States, total...	402	63	5.6	47.1	4.5	9.4	35.2	122.4	69.0	164.6	26.8	4.7	86.9
Northeast Region.....	57	7	.7	6.7	.6	1.3	4.4	12.9	5.4	17.2	1.2	(NA)	(NA)
Pennsylvania.....	23	4	.3	3.2	.2	.5	1.6	5.4	(0)	6.9	(0)	(NA)	(NA)
Illinois.....	10	2	.1	.8	.1	.2	.5	1.9	.5	2.1	.3	(NA)	(NA)
West North Central Oiv...	29	4	.1	1.2	.1	.3	1.0	4.4	2.0	6.0	.3	(NA)	(NA)
South Region.....	142	19	1.9	13.2	1.6	3.3	10.4	50.0	24.5	60.1	14.6	(NA)	(NA)
North Carolina.....	12	2	.2	1.2	.1	.3	.9	2.1	1.2	3.0	.2	(NA)	(NA)
Florida.....	35	1	.2	1.3	.1	.3	1.1	6.2	2.0	5.2	2.9	(NA)	(NA)
West South Central Oiv...	60	10	1.0	8.2	.8	1.9	6.5	30.6	15.6	39.7	6.5	(NA)	(NA)
California.....	30	9	1.1	11.2	.9	1.8	8.4	21.7	(0)	33.2	(0)	(NA)	(NA)

(NA) Not available.

(O) Withheld to avoid disclosing figures for individual companies.

n.e.c. Not elsewhere classified.

TABLE 3. Primary Products of the Industry, by Geographic Areas: 1972 and 1967

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, Explanation of Terms "Individual Products")

1972 product code	Product and geographic area	Unit of measure	1972		1967	
			Production	Shipments including interplant transfers	Production	Shipments including interplant transfers
				Quantity		Quantity
1499- --	MISCELLANEOUS NONMETALLIC MINERALS, N.E.C.					
14991 00	United States, total.....	(X)	(X)	161.1	(X)	(X)
14991 00	Mica.....	1,000 s. tons	182.3	168.9	7.5	(NA)
14992 00	Natural asphalt and bitumens.....	...do.....	4,952.9	4,649.8	10.6	(NA)
14993 00	Pumice and pumicite.....	...do.....	1,039.5	1,020.0	3.1	1,329.3
14994 00	Natural abrasives, except sand.....	...do.....	97.0	96.9	6.6	104.8
14995 00	Peat.....	...do.....	607.9	596.9	8.6	587.2
14996 00	Oiatomite, crude and prepared.....	...do.....	540.7	540.7	28.8	706.1
14997 01	Asbestos, crude and prepared.....	...do.....	143.5	141.7	13.9	119.5
14997 05	Perlite <sup>2</sup> .....	...do.....	340.4	322.4	4.2	538.1
14997 11	Shell, crushed or broken <sup>3</sup> .....	...do.....	20,945.1	20,944.1	32.2	13,716.9
14997 98	Other nonmetallic minerals n.e.c. <sup>4</sup> .....	...do.....				13,837.8
14990 00	Nonmetallic minerals, n.s.k. <sup>5</sup> .....	.....				
14994 00	Northeast Region:		(X)	(X)	<sup>1</sup> 44.4	{ (NA)
14995 00	Natural abrasives, except sand.....	1,000 s. tons	11.6	11.3	3.4	(O)
14990 00	peat.....	...do.....	239.7	234.8	4.1	123.0
14990 00	Nonmetallic minerals, n.s.k. <sup>5</sup> .....	.....	(X)	(X)	3.1	(X)
14995 00	North Central Region:					
14995 00	Peat.....	1,000 s. tons	216.1	197.7	3.4	325.9
14991 00	South Region:					
14991 00	Mica.....	1,000 s. tons	162.7	160.5	6.7	(NA)
14995 00	Peat.....	...do.....	51.5	52.4	.7	(O)
14993 00	West Region:					
14993 00	Mountain Division:					
14993 00	Pumice and pumicite.....	1,000 s. tons	427.6	423.9	1.2	419.7
14990 00	Nonmetallic minerals n.s.k. <sup>5</sup> .....	.....	(X)	(X)	9.0	(X)
14993 00	Pacific Division:					
14993 00	Pumice and pumicite.....	1,000 s. tons	618.8	607.9	1.9	869.9
14990 00	Nonmetallic minerals, n.s.k. <sup>5</sup> .....	.....	(X)	(X)	5.5	(X)
14993 00	California:					
14990 00	Pumice and pumicite.....	1,000 s. tons	386.0	379.1	1.3	401.6
14990 00	Nonmetallic minerals, n.s.k. <sup>5</sup> .....	.....	(X)	(X)	2.7	(X)

(X) Not applicable. (NA) Not available. (O) Withheld to avoid disclosing figures for individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

<sup>1</sup>Represents net shipments; that is, gross shipments less minerals received from other establishments for preparation.

<sup>2</sup>Represents crude production and crude and prepared shipments. Includes simple preparation methods such as drying and crushing, and expansion if performed in conjunction with mining.

<sup>3</sup>Excludes production and shipments of shell produced and used by establishments primarily classified in construction or in manufacturing industries such as those producing cement or concrete products.

<sup>4</sup>Represents such minerals as vermiculite, graphite, gemstones, staurolite and greensand.

<sup>5</sup>This item represents the value of shipments for companies that did not report detailed product data. For 1967, this figure was allocated among the specific products.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:  
1972 and 1967

(See appendix, Explanation of Terms)

1972 code	Item	Unit of measure	1972		1967	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
INDUSTRY 1499.--NONMETALLIC MINERALS N.E.C.						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	49.5	(X)	26.6
147091	Minerals mined and received for preparation:					
	Mined and prepared at same establishment.....	1,000 s. tons.	(NA)	(X)	(NA)	(X)
	Received for preparation.....	...do.....	(NA)	1.6	(X)	( <sup>1</sup> )
353011	Purchased machinery installed.....	.....	(X)	12.7	(X)	5.4
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lb.....				
289212	Ammonium nitrate.....	...do.....				
289214	Blasting accessories.....	.....	(X)	22.8	.....	
331201	Steel mill shapes and forms.....	.....			(X)	
970099	All other supplies.....	.....				121.2
974000	Undistributed supplies <sup>2</sup> .....	.....	(X)	12.4		

(X) Not applicable. (NA) Not available. n.e.c. Not elsewhere classified.

<sup>1</sup>The cost of minerals received for preparation is included with the costs of supplies used and undistributed supplies.<sup>2</sup>This item represents the total cost of supplies for establishments that did not report detailed supplies data and also includes estimates for establishments that were not mailed report forms.

## Appendix A. SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1972 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in *Volume I, Summary and Industry Statistics, 1972 Census of Mineral Industries*. The final report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil and gas, or performed oil and gas field services for others during any part of calendar year 1972, was required to submit a separate report for each State or offshore area adjacent to each State in which it conducted such activities. Concerns which supplied contract services for other than oil and gas fields were required to submit a separate report for each State.

In the 1972 census as in the 1967 census, approximately 8,000 single-unit establishments with one to four employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data (payrolls, sales, and industry classification) from the administrative records of the Social Security Administration (SSA) and the Internal Revenue Service (IRS) were made available to the Census Bureau for use in the 1972 Economic Censuses (Retail and Wholesale Trade, Service Industries, Construction Industries, Manufactures, and Mineral Industries). Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 2 percent of value added. In industry 1499, these small establishments accounted for less than 6 percent of value added.

In the 1972 Census of Mineral Industries as in the 1967 census, data for all single-unit firms without paid employees were excluded because of the difficulty in developing a universe list for these establishments. The

exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small firms (less than five employees). The industry classifications for these small single-unit firms, obtained from SSA records, were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation among industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be considered as an approximation rather than a precise measurement. The counts of establishments with 20 employees or more are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Preliminary summary reports showing U.S. totals for each mineral industry and for each State will be issued. Final industry reports and final area reports will be published during 1974.

Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce district office or from the Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233.

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Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not

specified by kind." (See text for importance of administrative records in the industry.)

**Capital Expenditures**—In the 1972 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1972 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

**Value Added in Mining**—This measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

**Value of Shipments**—The amounts under value of shipments are the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to

other establishments of the same company at full economic or commercial value; i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

**Individual Products**—In the 1972 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the figures of the 1972 and 1967 minerals censuses were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1972 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industry covered in the report.

**Shipments and Production**—Shipments figures include all products physically shipped from the establishment during 1972, including material withdrawn from stock-piles and products shipped on consignment, whether or not sold in 1972. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

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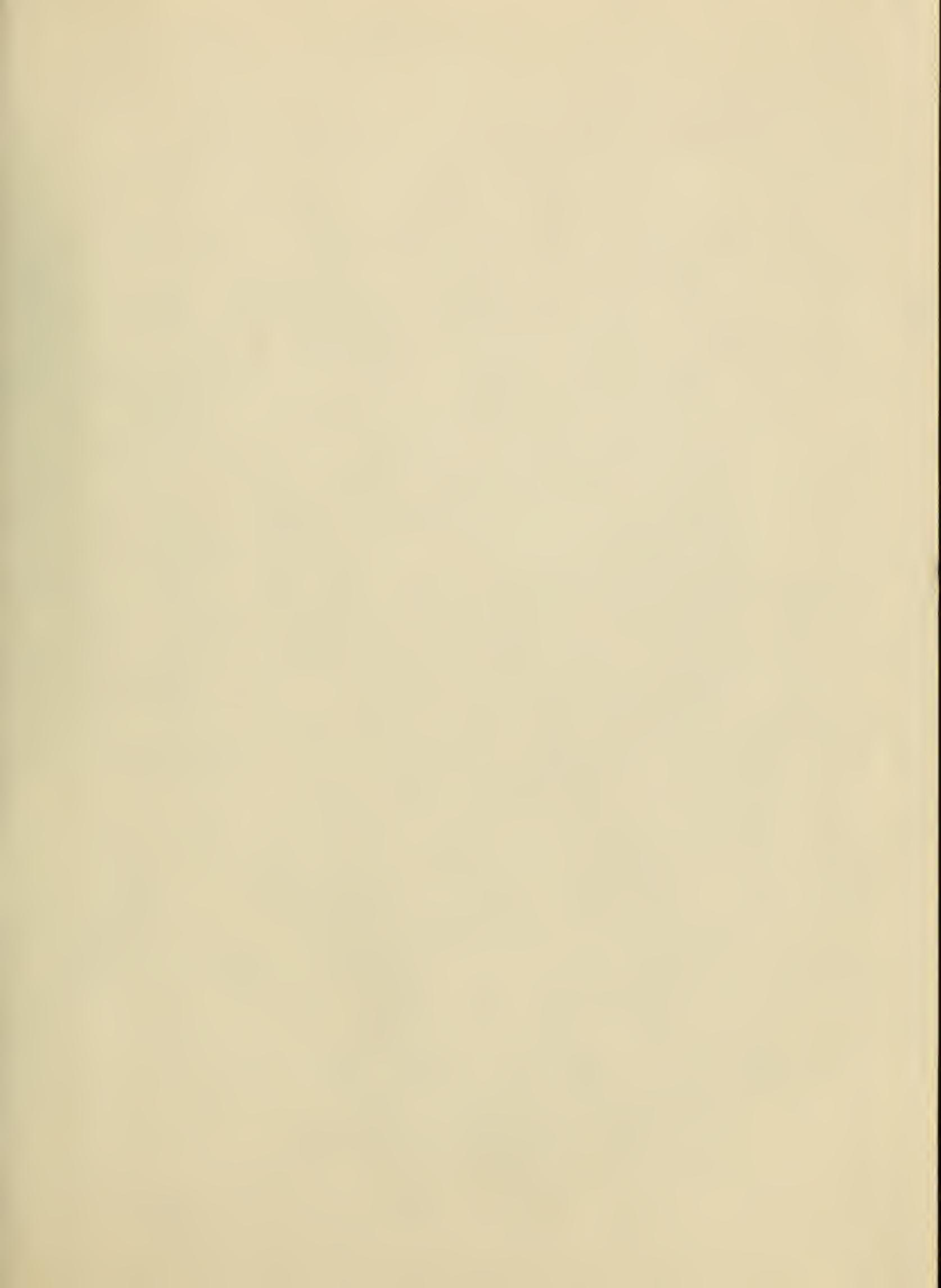


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